

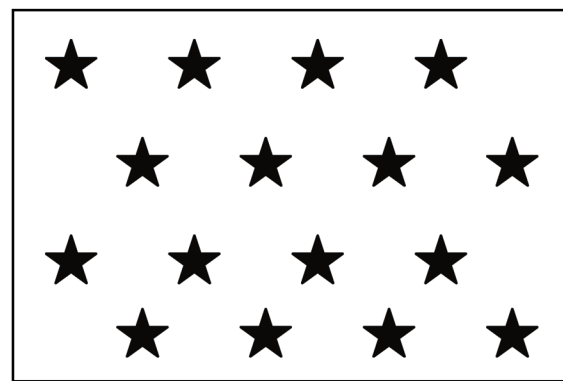
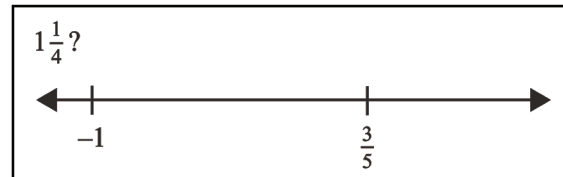
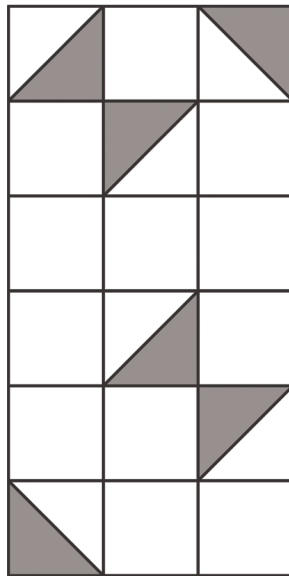
# NUMBER TALKS

## FRACTIONS, DECIMALS, AND PERCENTAGES

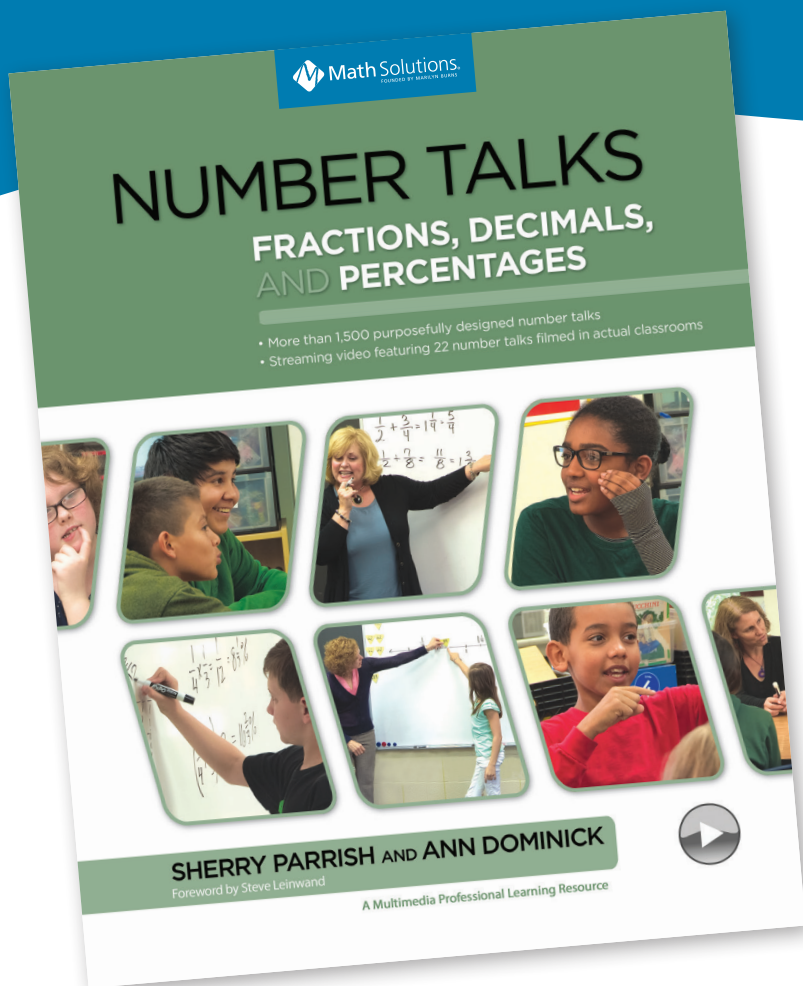
More than 150 pages of user-friendly, reproducible  
area, set, and linear models

### REPRODUCIBLES

#### Area, Set, and Linear Models



SHERRY PARRISH AND ANN DOMINICK



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# Contents by Chapter

The reproducibles listed are enlarged versions of the area, set, and linear models that appear in Chapters 4, 6, 7, and 8 of *Number Talks: Fractions, Decimals, and Percentages*.

Chapter	Type of Model	Reproducible Number/Title
Chapter 4	Area Models	Reproducible 1: Reasoning About Equal Parts of a Fraction Reproducible 2: Reasoning About Equivalence Among Fractions
	Set Models	Reproducible 7: Can you see $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{3}, \frac{1}{6}\right)$ of the whole?
	Linear Models	Reproducible 8: 0 to 1 Number Line Reproducible 9: 0 to 2 Number Line Reproducible 10: 0 to 4 Number Line Reproducible 11: 1 to 2 Number Line Reproducible 12: -1 to 1 Number Line Reproducible 13: -2 to 2 Number Line Reproducible 14: Various Number Lines
Chapter 6	Area Models	Reproducible 3: Using Area Models Partitioned into Common Denominators Reproducible 4: Using Area Models Requiring Partitioning
	Linear Models	Reproducible 15: 0 to 2 Number Line, Partitioned into $\frac{1}{4}$ s Reproducible 16: 0 to 2 Number Line, Partitioned into $\frac{1}{2}$ s and $\frac{1}{3}$ s
Chapter 7	Area Models	Reproducible 5: Using Area Models Partitioned into Eighths and Twelfths
Chapter 8	Area Models	Reproducible 6: Models to Focus on the Shifting Whole

# Contents by Model (Area, Set, or Linear)

The reproducibles listed are enlarged versions of the area, set, and linear models that appear in Chapters 4, 6, 7, and 8 of *Number Talks: Fractions, Decimals, and Percentages*.

## Area Models

### Chapter 4

- Reproducible 1 Reasoning About Equal Parts of a Fraction
- Reproducible 2 Reasoning About Equivalence Among Fractions

### Chapter 6

- Reproducible 3 Using Area Models Partitioned into Common Denominators
- Reproducible 4 Using Area Models Requiring Partitioning

### Chapter 7

- Reproducible 5 Using Area Models Partitioned into Eighths and Twelfths

### Chapter 8

- Reproducible 6 Models to Focus on the Shifting Whole

## Set Models

### Chapter 4

- Reproducible 7 Can you see  $\left(\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{3}, \frac{1}{6}\right)$  of the whole?

## Linear Models

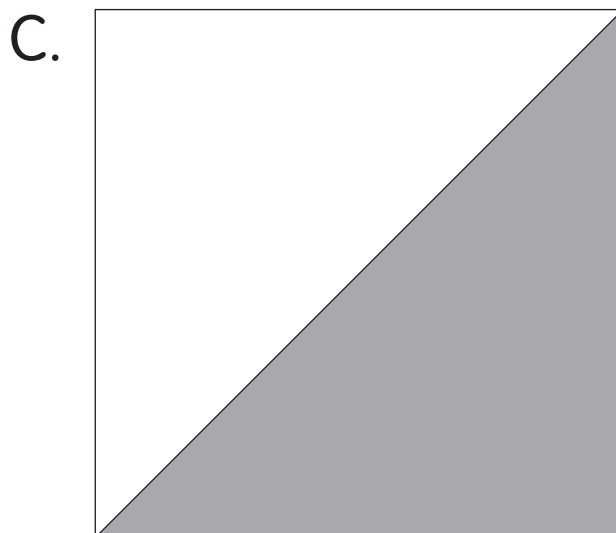
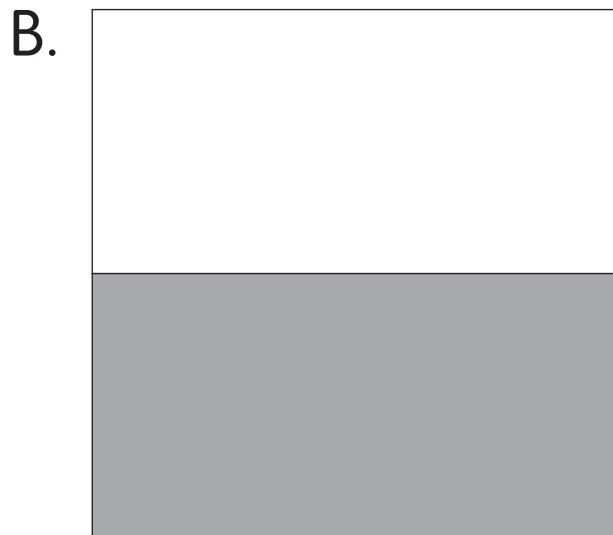
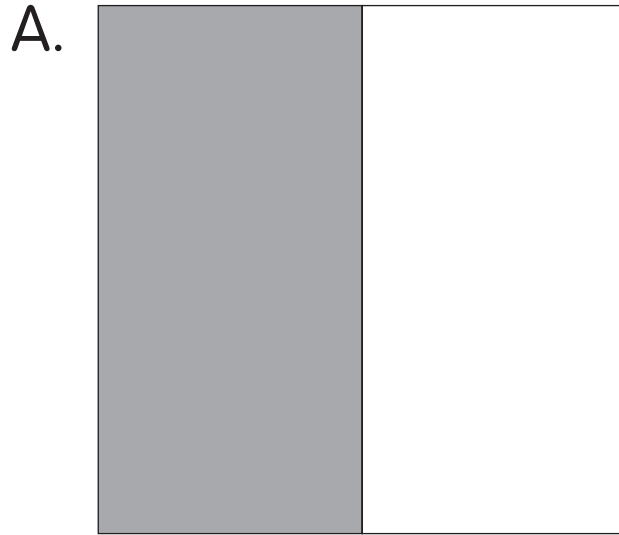
### Chapter 4

- Reproducible 8 0 to 1 Number line
- Reproducible 9 0 to 2 Number Line
- Reproducible 10 0 to 4 Number Line
- Reproducible 11 1 to 2 Number Line
- Reproducible 12 -1 to 1 Number Line
- Reproducible 13 -2 to 2 Number line
- Reproducible 14 Various Number Lines

### Chapter 6

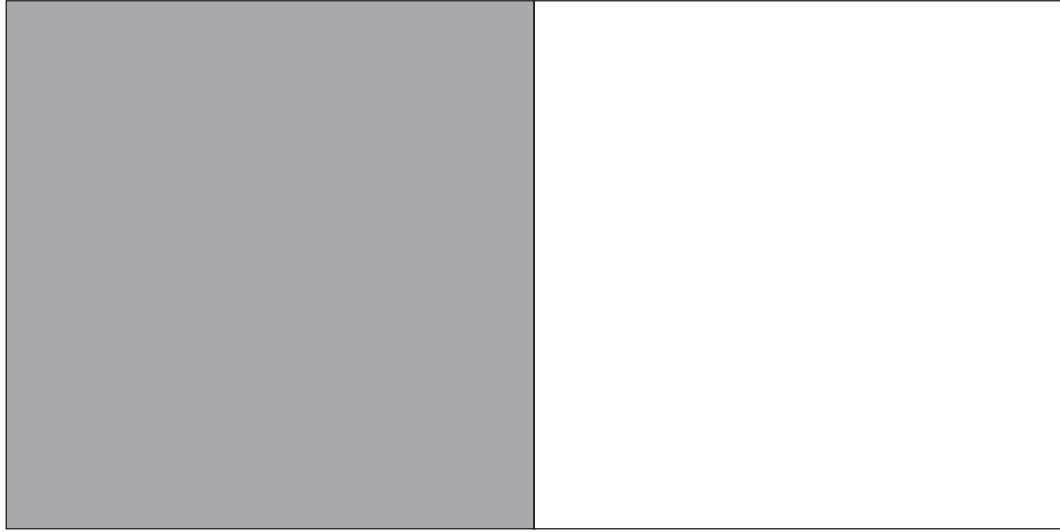
- Reproducible 15 0 to 2 Number Line, Partitioned into  $\frac{1}{4}$ s
- Reproducible 16 0 to 2 Number Line, Partitioned into  $\frac{1}{2}$ s and  $\frac{1}{3}$ s

Which of these models represent  $\frac{1}{2}$  of the whole?  
How do you know?



Which of these models represent  $\frac{1}{2}$  of the whole?  
How do you know?

A.



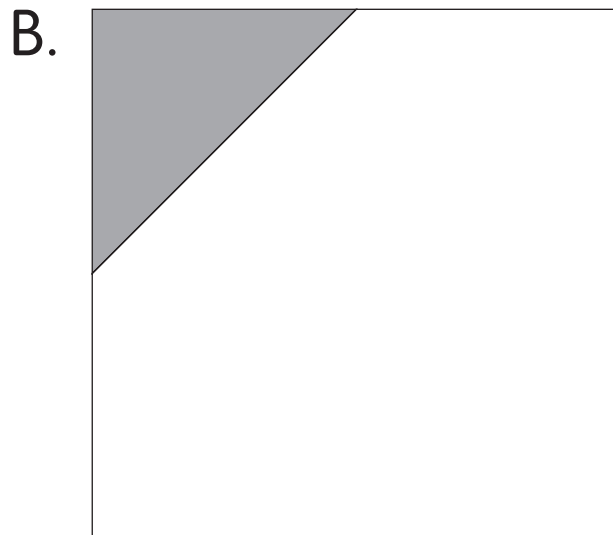
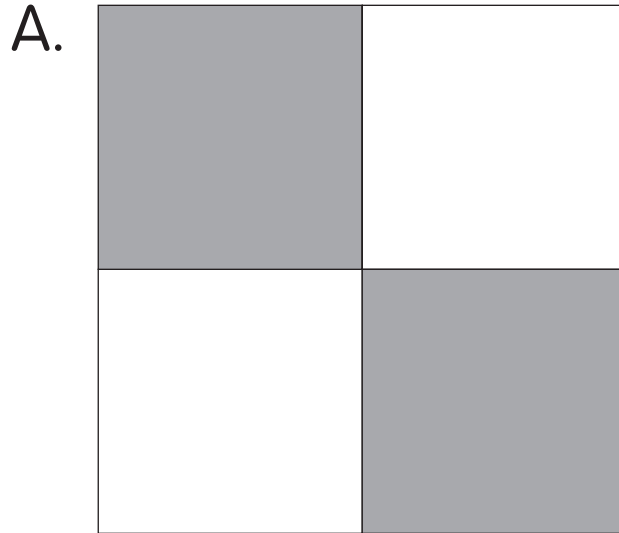
B.



C.

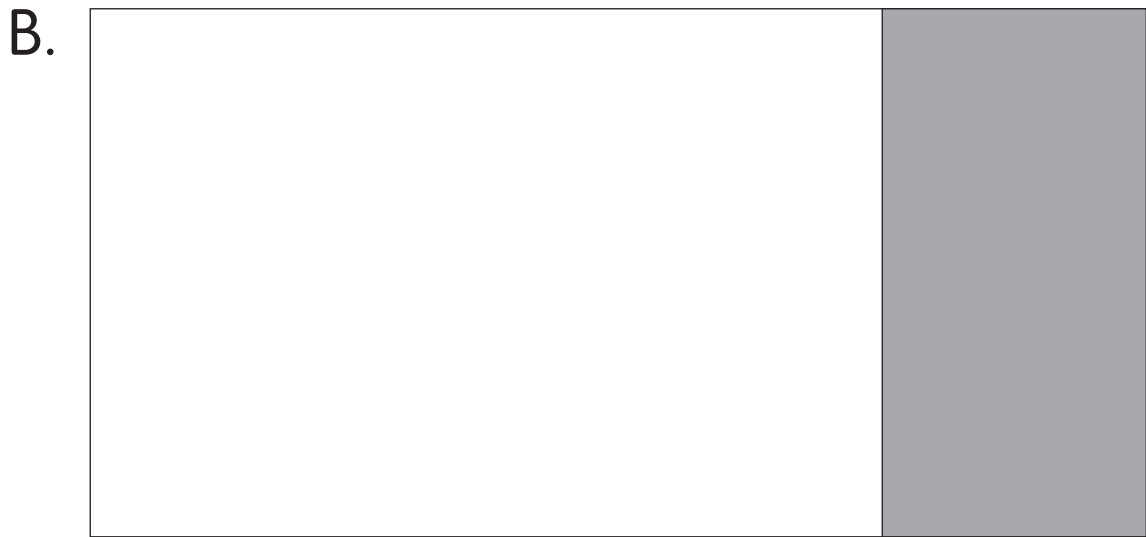
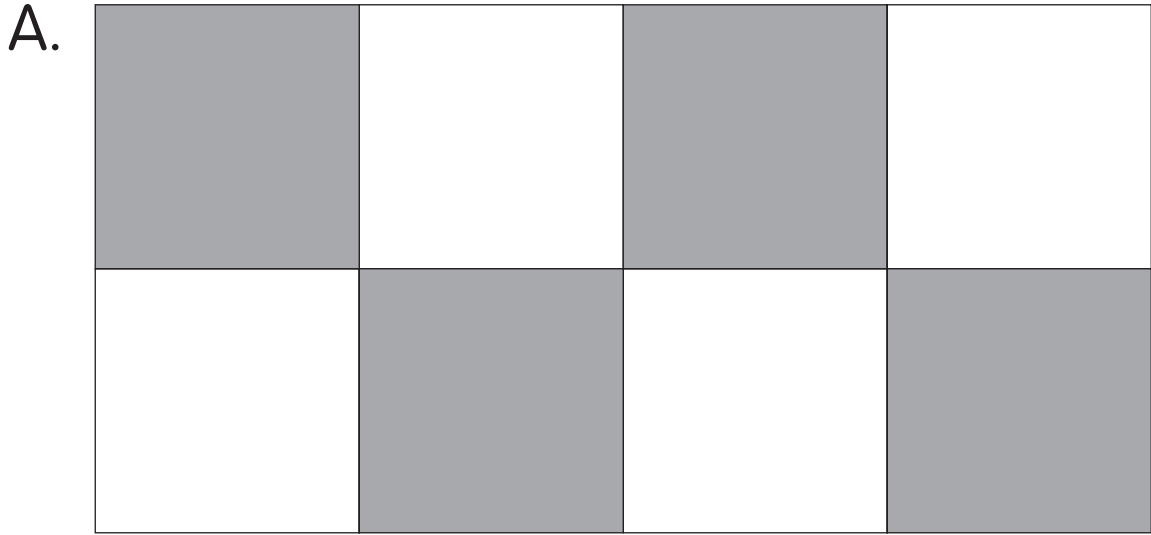


Which of these models represent  $\frac{1}{2}$  of the whole?  
How do you know?



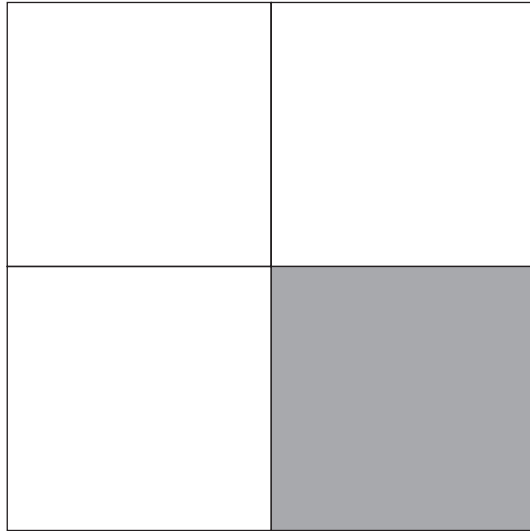


Which of these models represent  $\frac{1}{2}$  of the whole?  
How do you know?

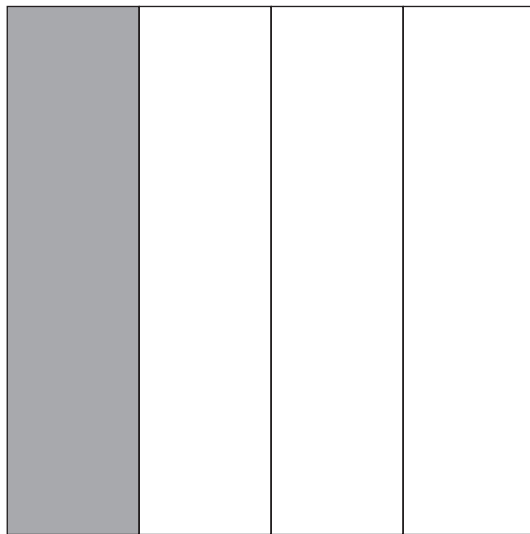


Which of these models represent  $\frac{1}{4}$  of the whole?  
How do you know?

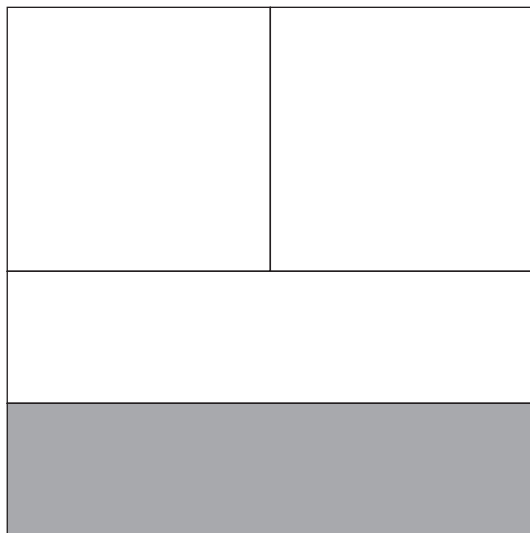
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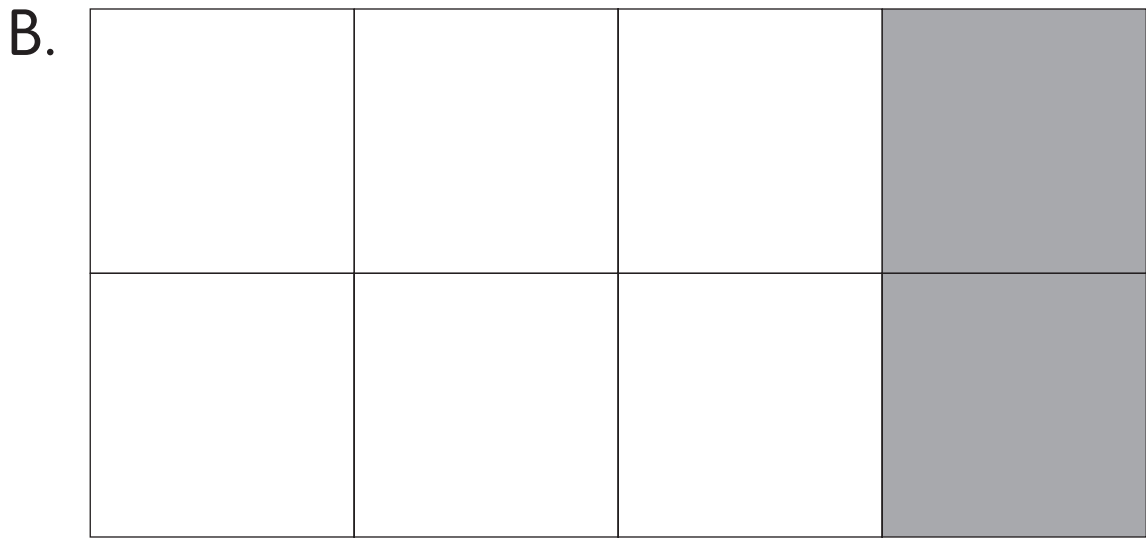
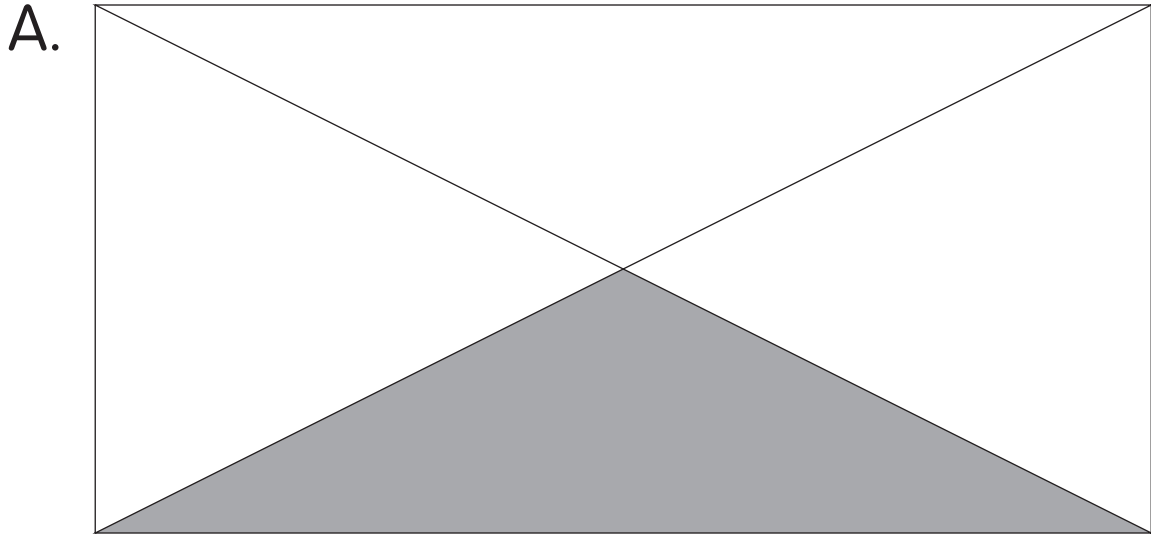
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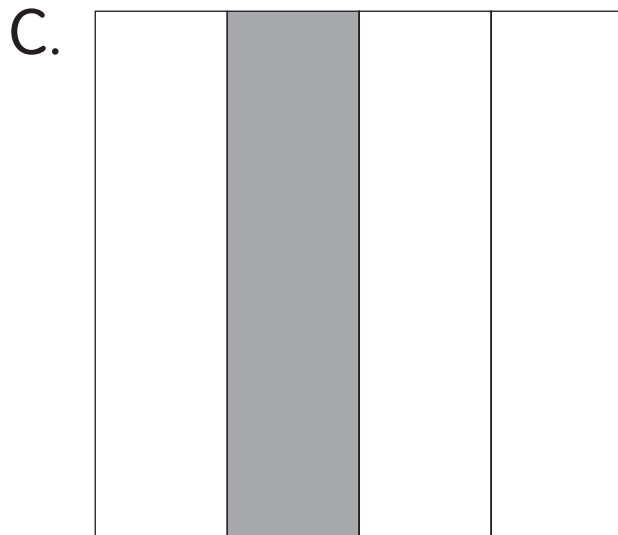
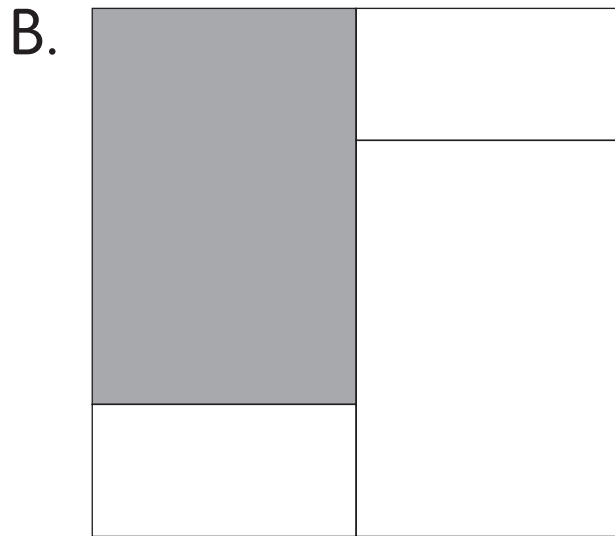
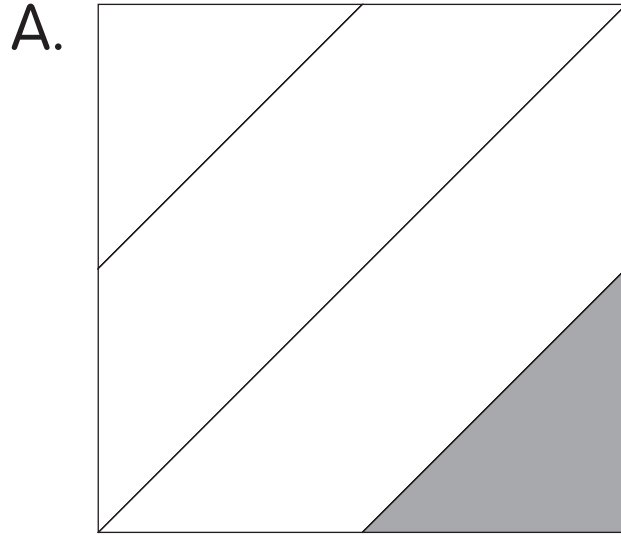
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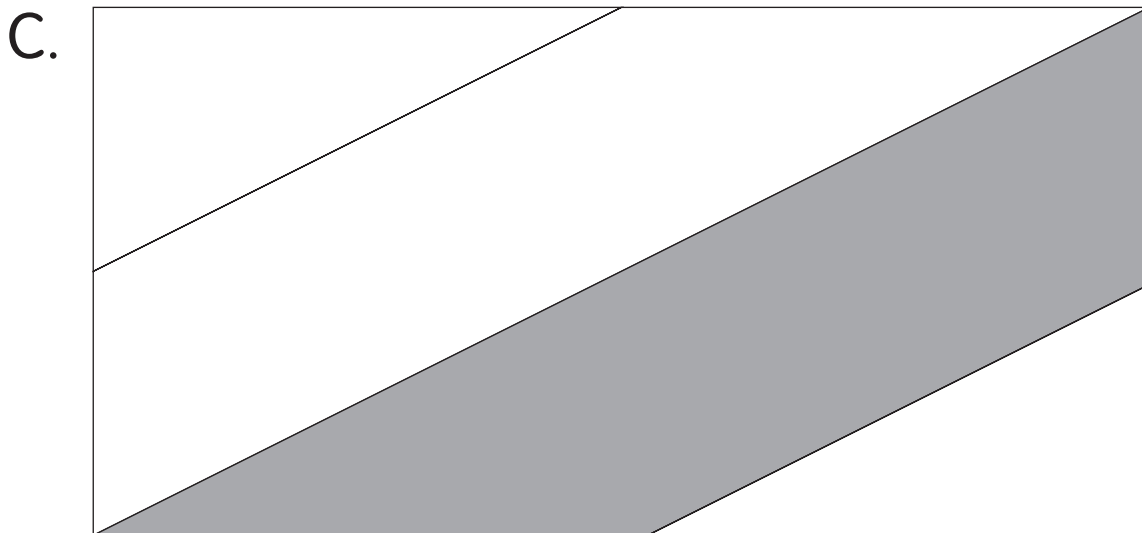
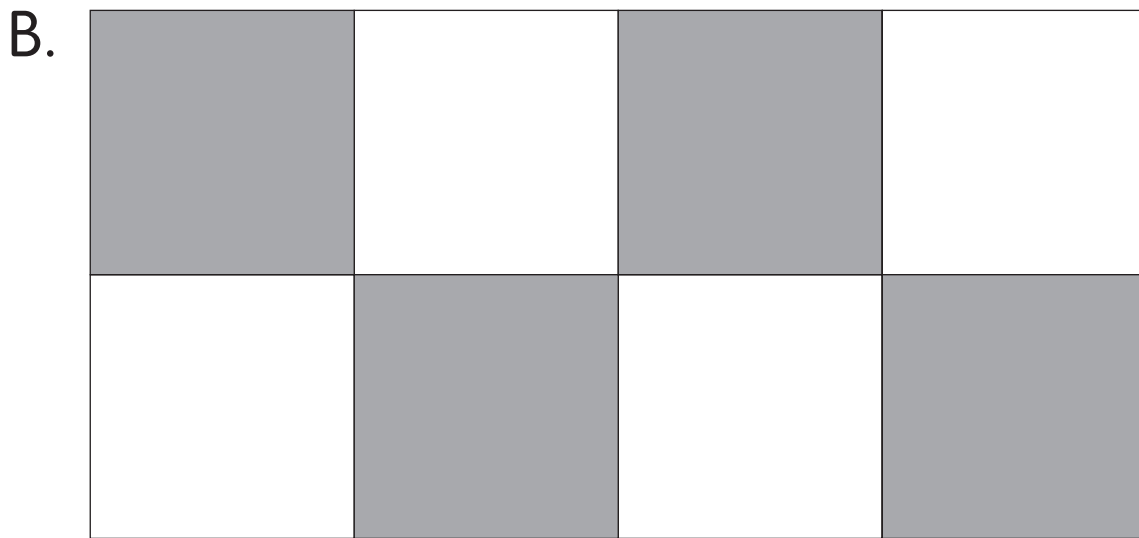
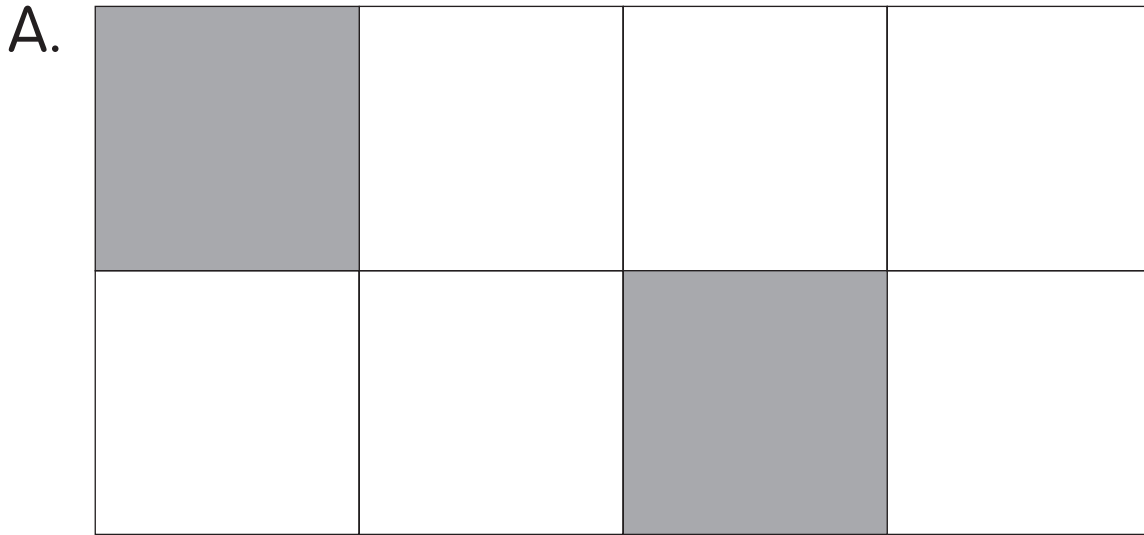
Which of these models represent  $\frac{1}{4}$  of the whole?  
How do you know?



Which of these models represent  $\frac{1}{4}$  of the whole?  
How do you know?

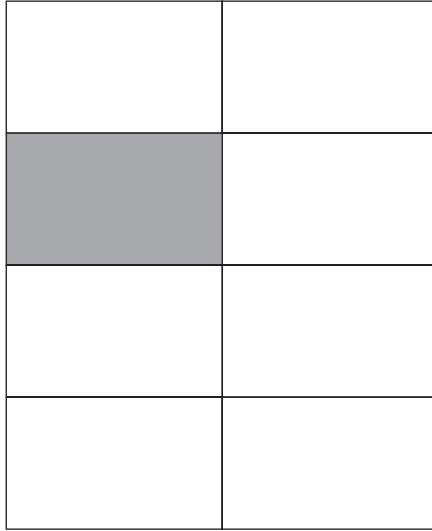


Which of these models represent  $\frac{1}{4}$  of the whole?  
How do you know?

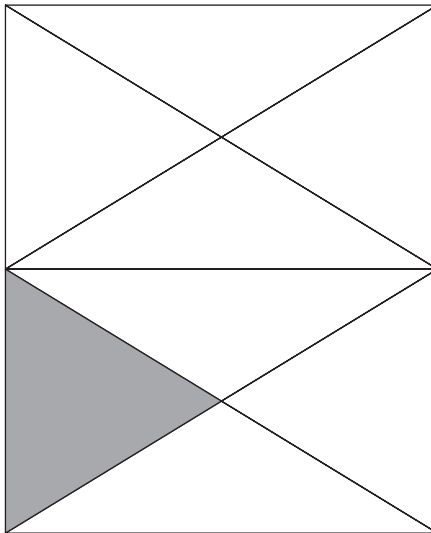


Which of these models represent  $\frac{1}{8}$  of the whole?  
How do you know?

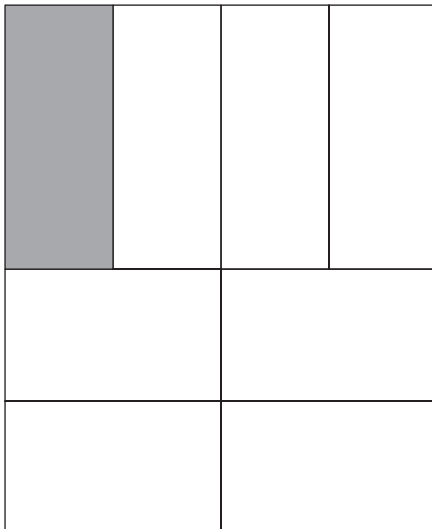
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B.

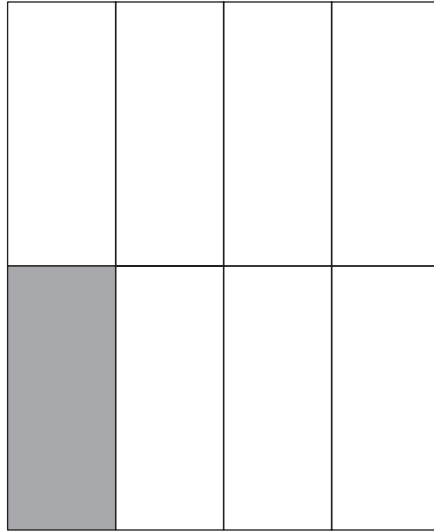


C.

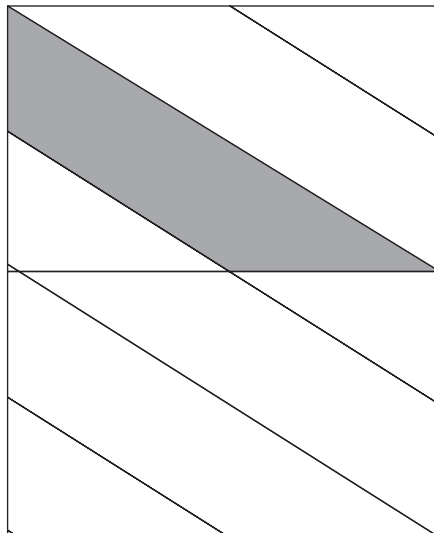


Which of these models represent  $\frac{1}{8}$  of the whole?  
How do you know?

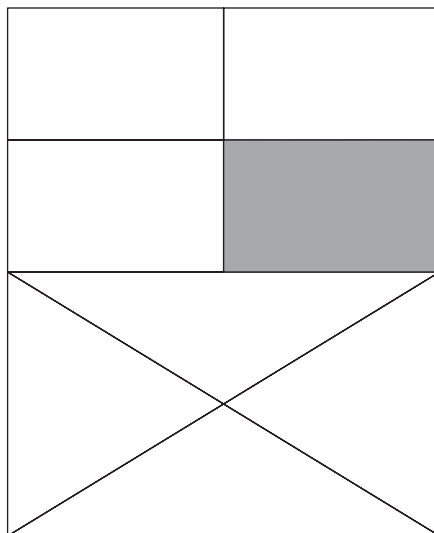
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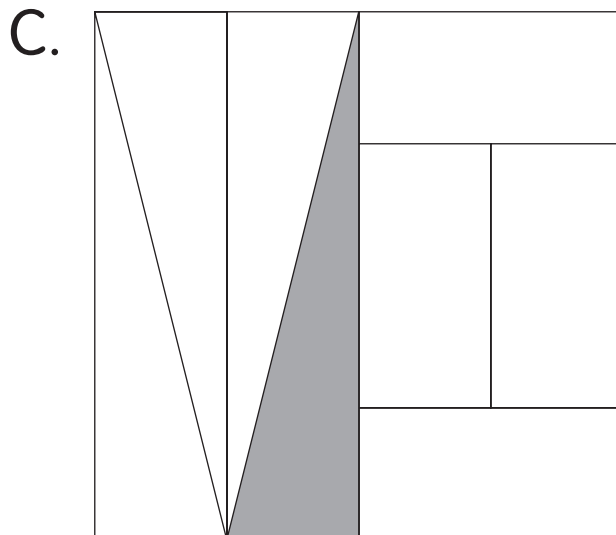
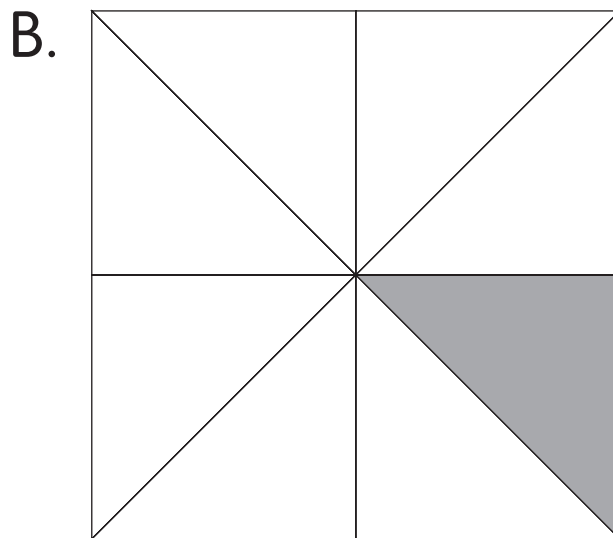
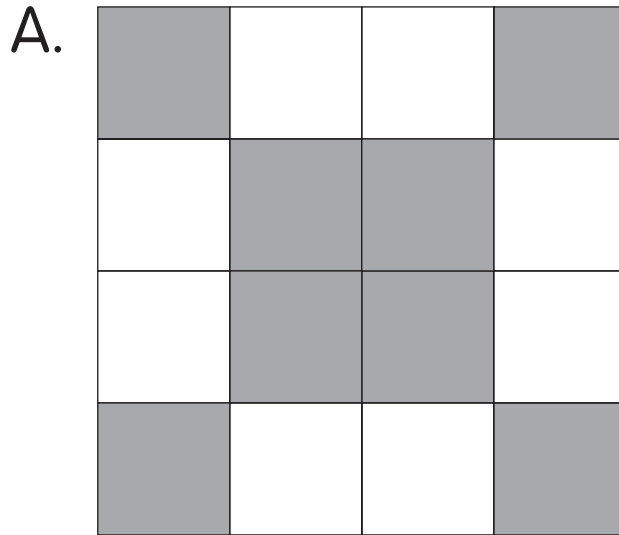
B.



C.

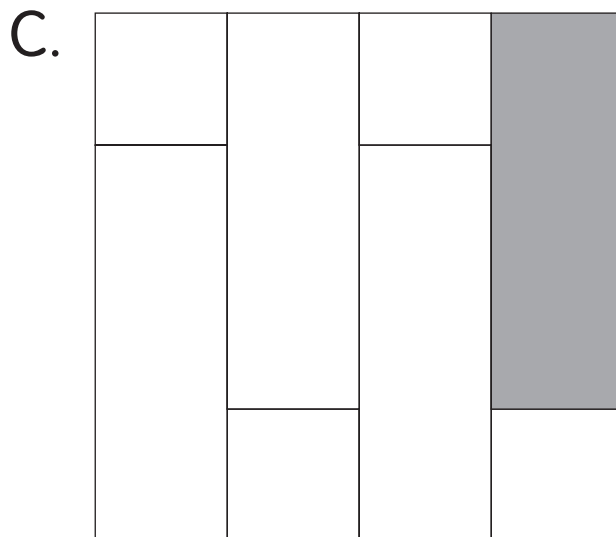
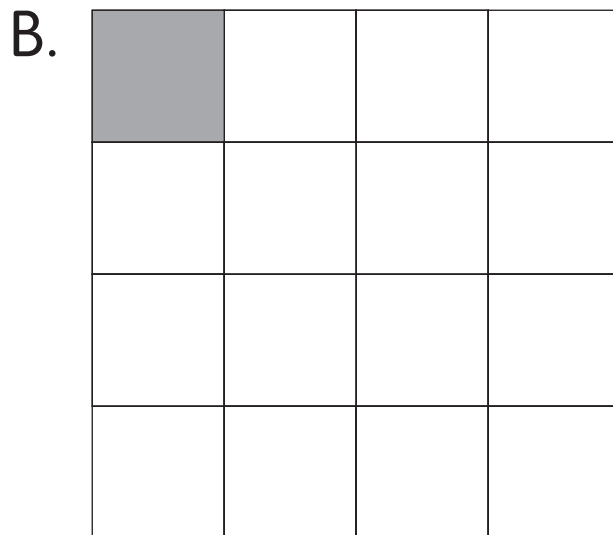
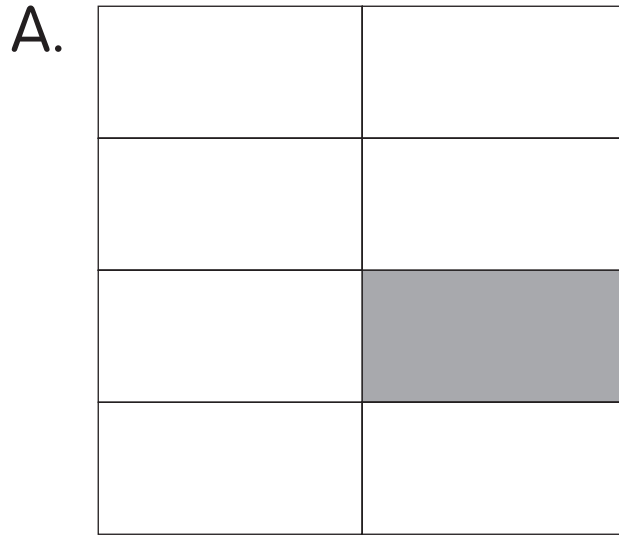


Which of these models represent  $\frac{1}{8}$  of the whole?  
How do you know?

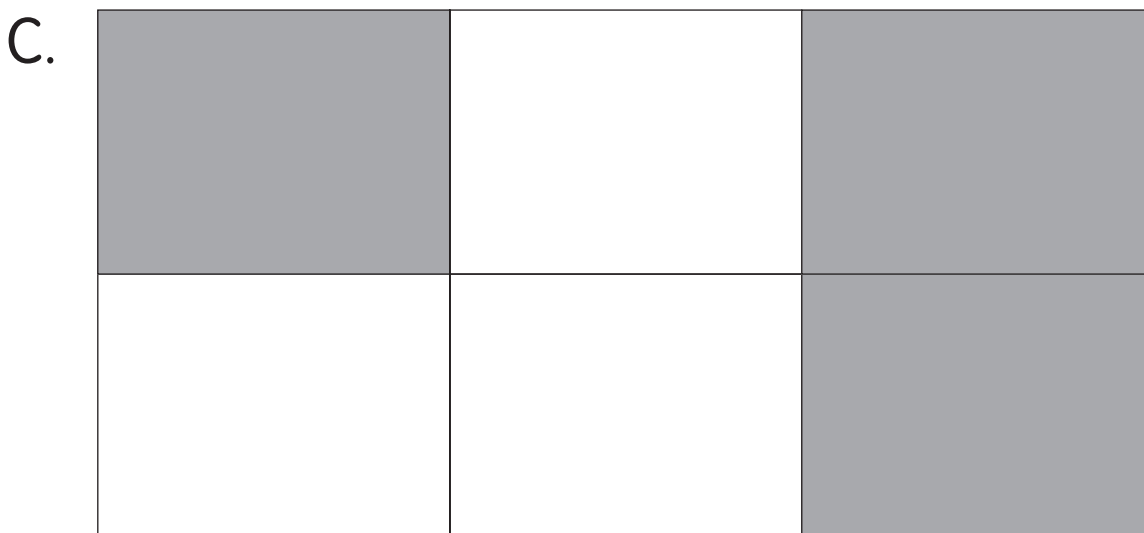
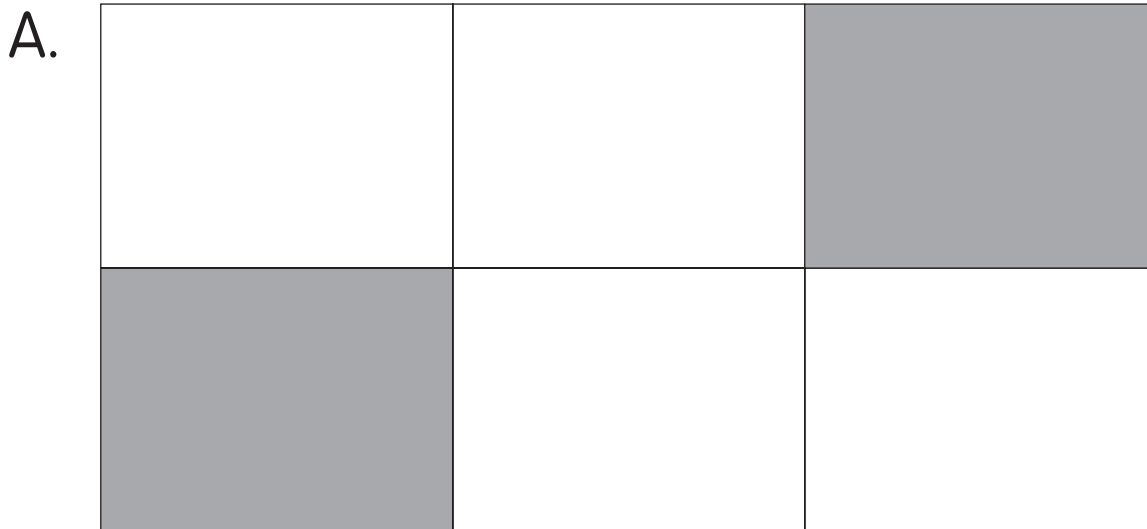




Which of these models represent  $\frac{1}{8}$  of the whole?  
How do you know?

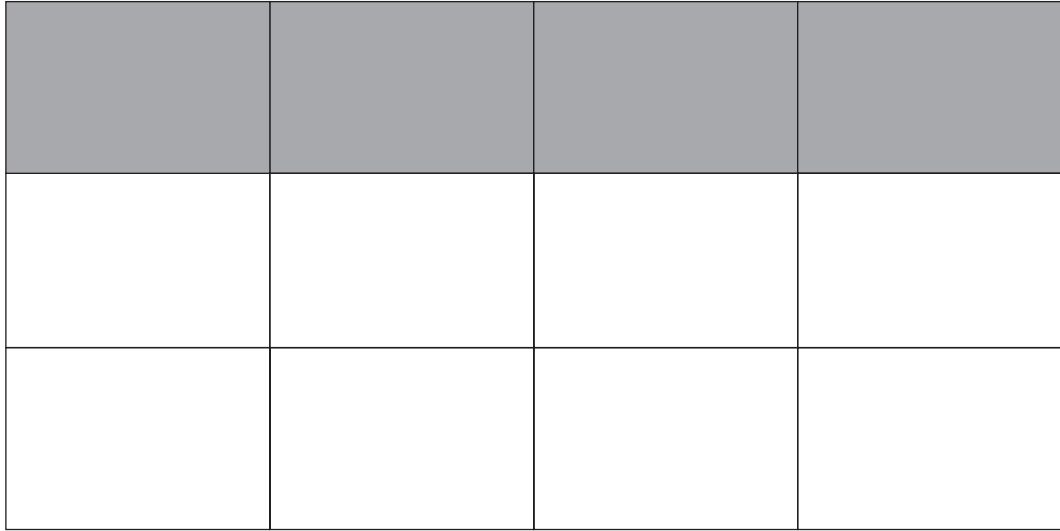


Which of these models represent  $\frac{1}{3}$  of the whole?  
How do you know?

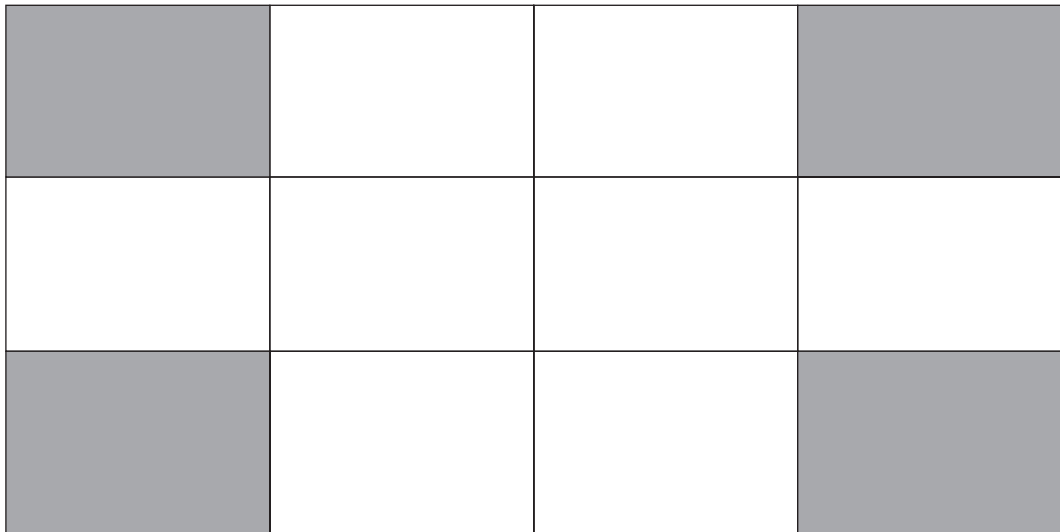


Which of these models represent  $\frac{1}{3}$  of the whole?  
How do you know?

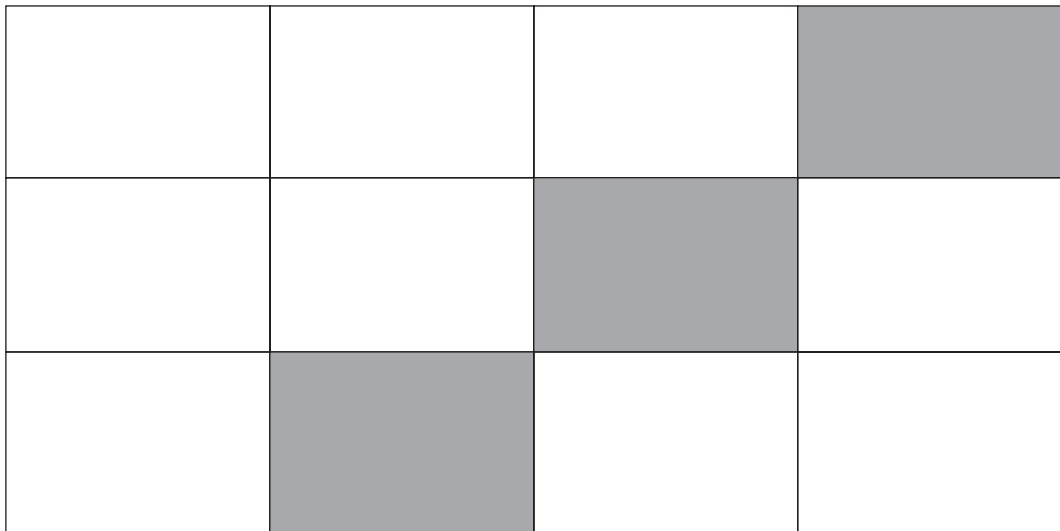
A.



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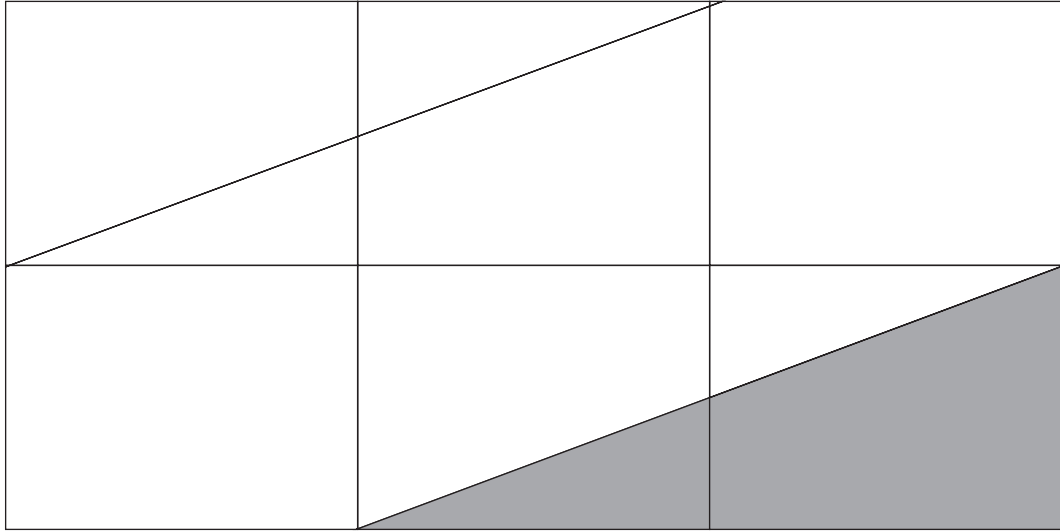


C.



Which of these models represent  $\frac{1}{3}$  of the whole?  
How do you know?

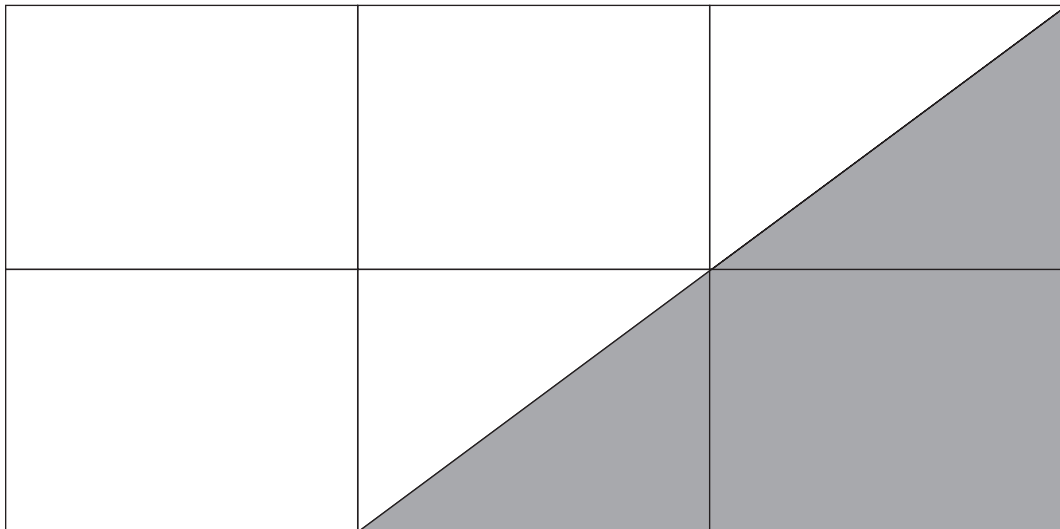
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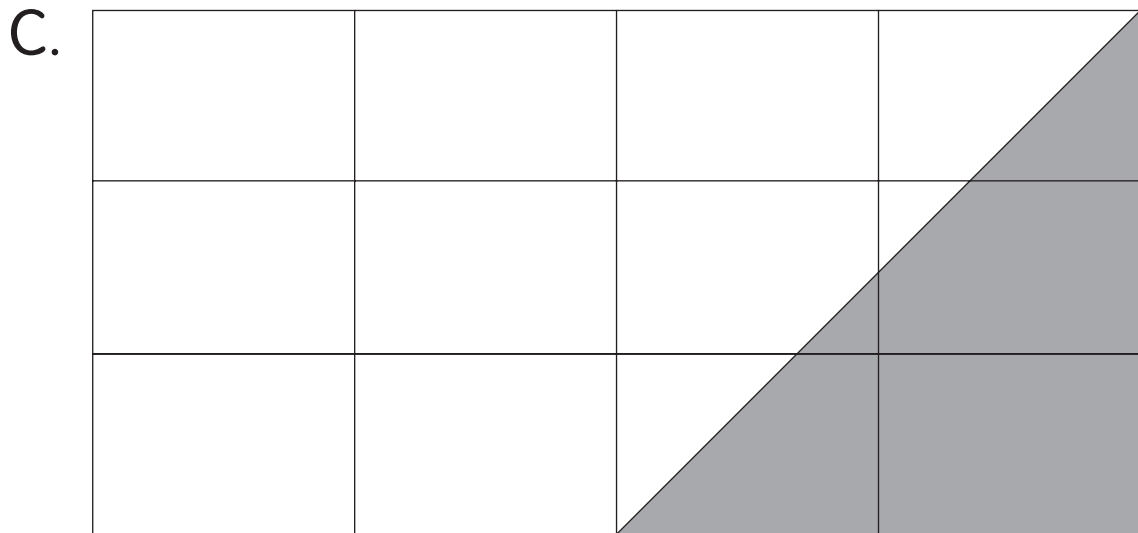
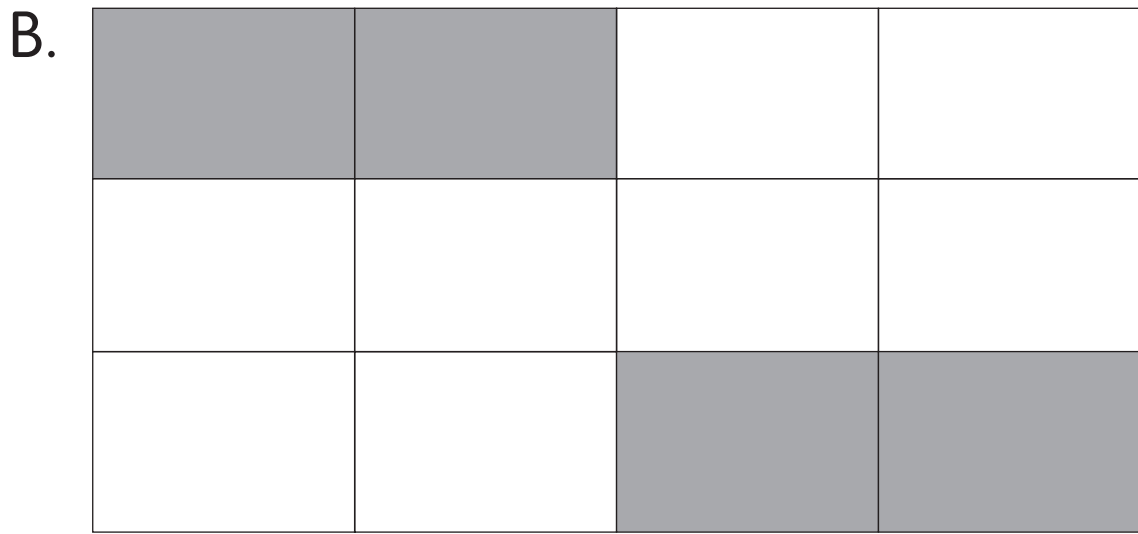
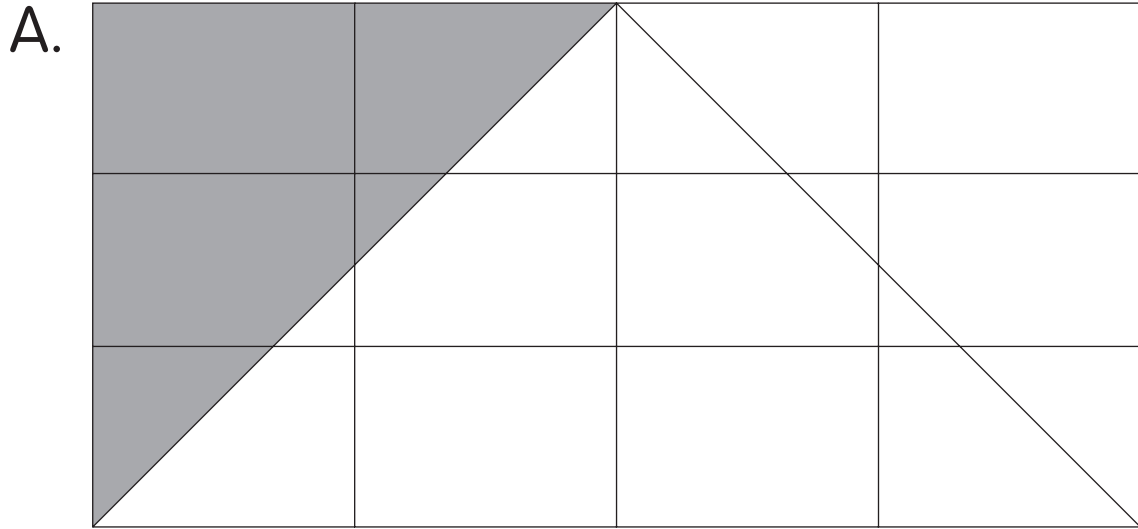
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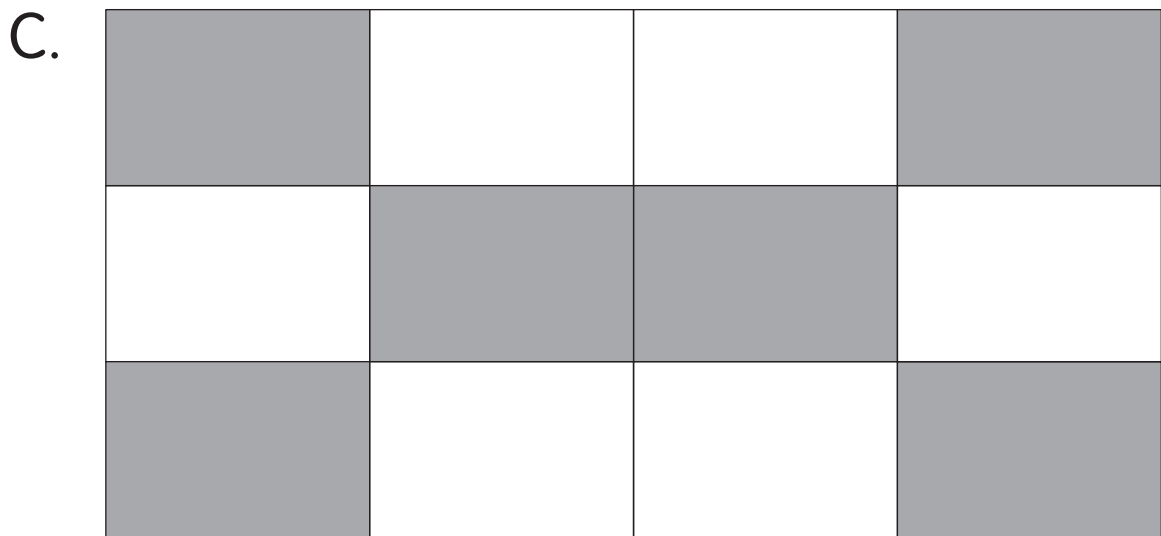
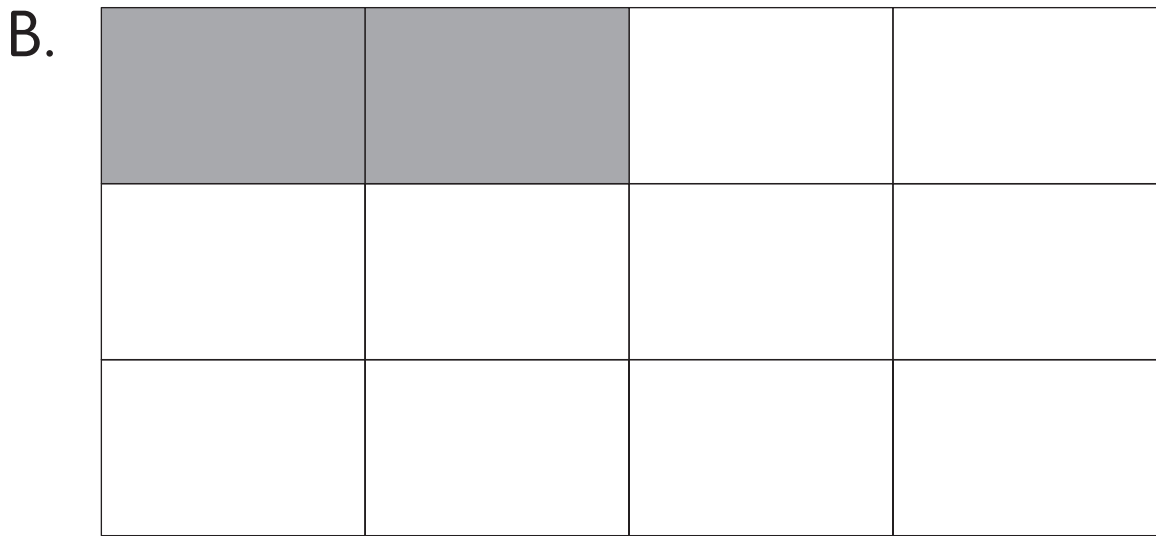
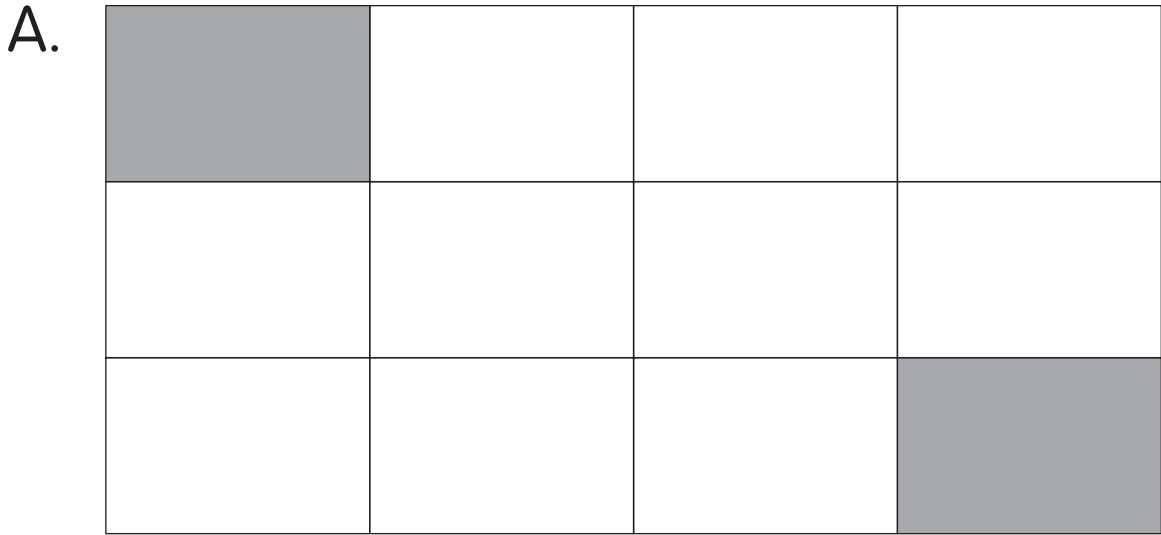
C.



Which of these models represent  $\frac{1}{3}$  of the whole?  
How do you know?

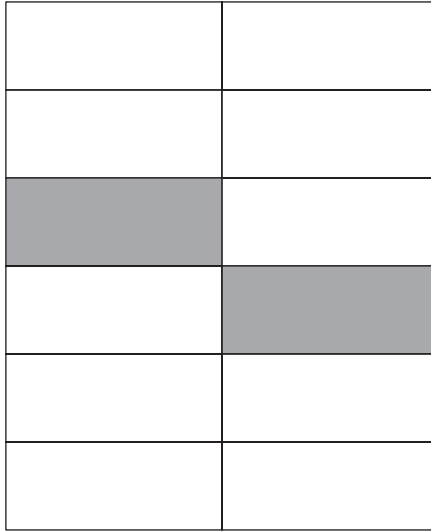


Which of these models represent  $\frac{1}{6}$  of the whole?  
How do you know?

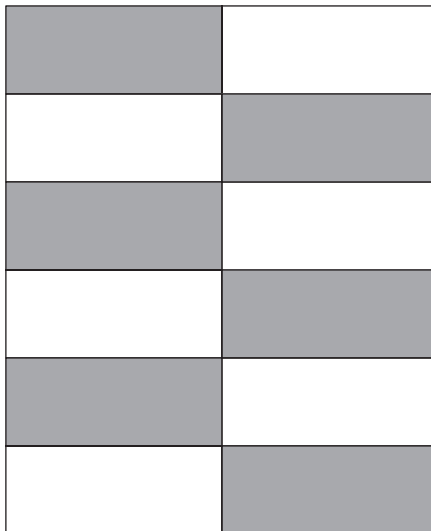


Which of these models represent  $\frac{1}{6}$  of the whole?  
How do you know?

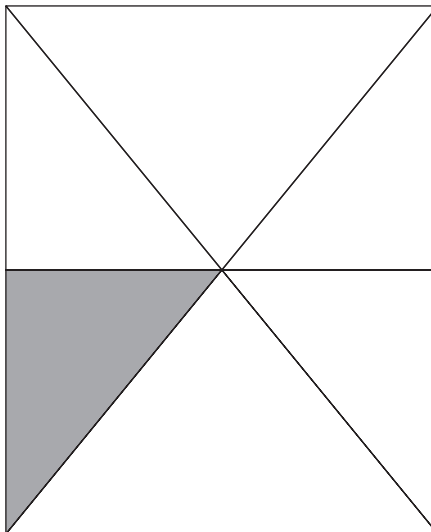
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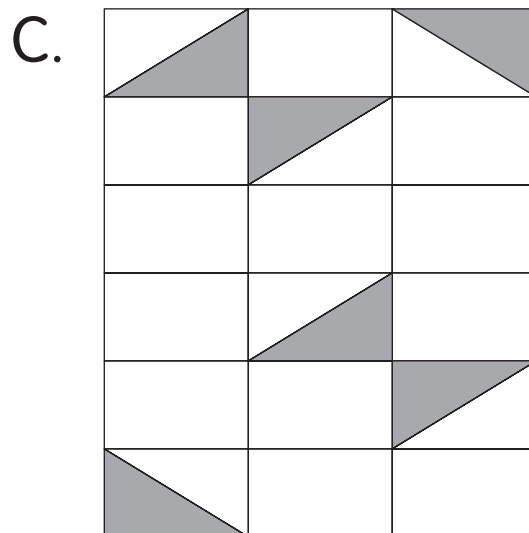
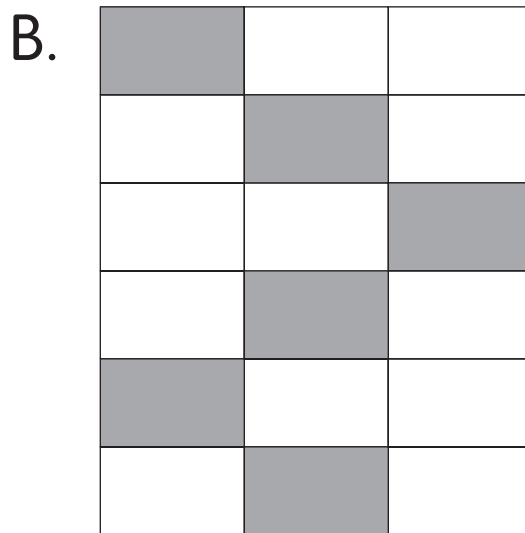
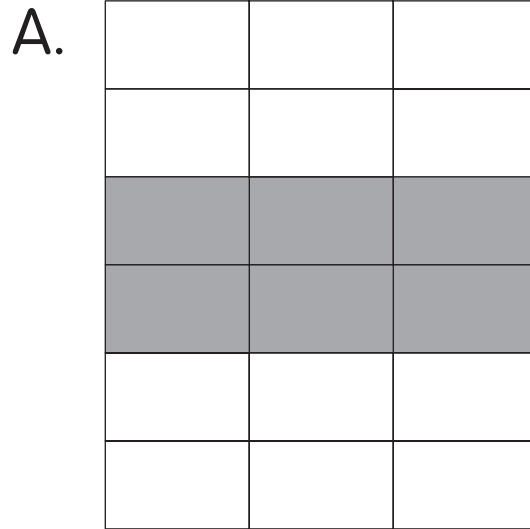
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C.



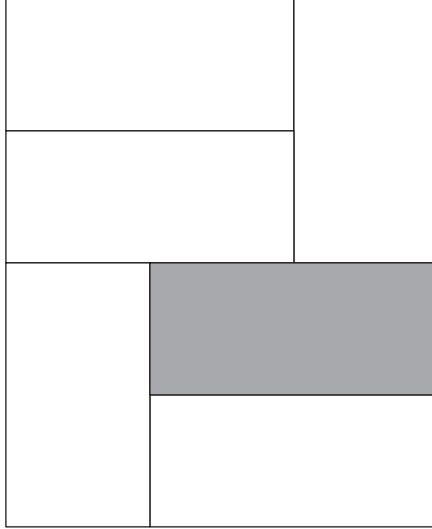
Which of these models represent  $\frac{1}{6}$  of the whole?  
How do you know?



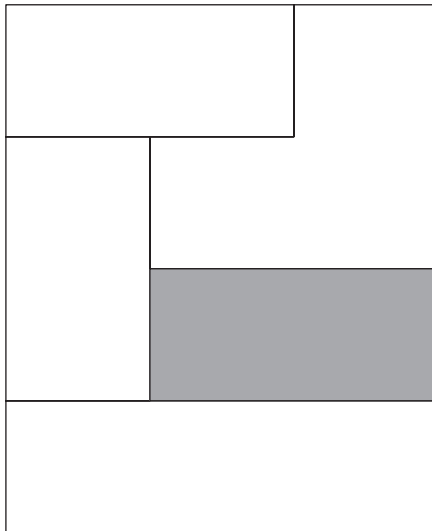


Which of these models represent  $\frac{1}{6}$  of the whole?  
How do you know?

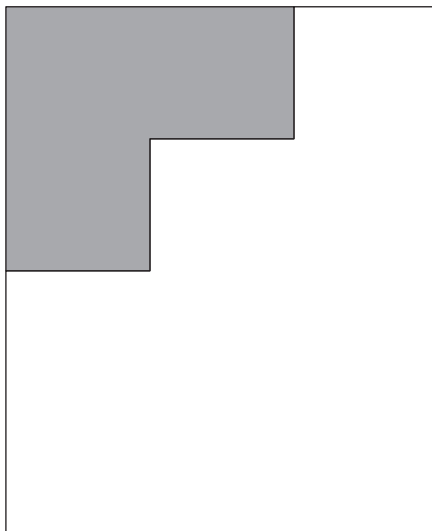
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B.

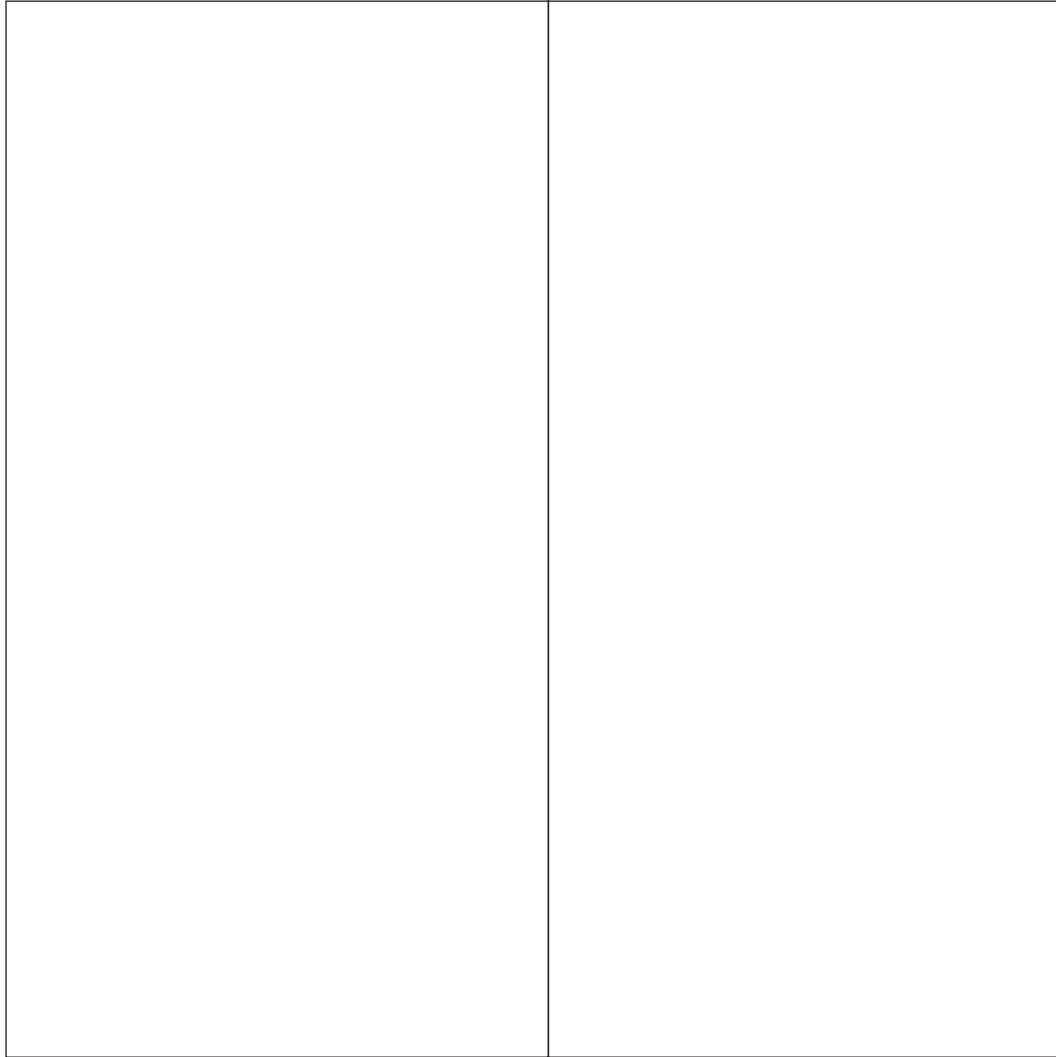


C.



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way? How can you prove your thinking?

A.

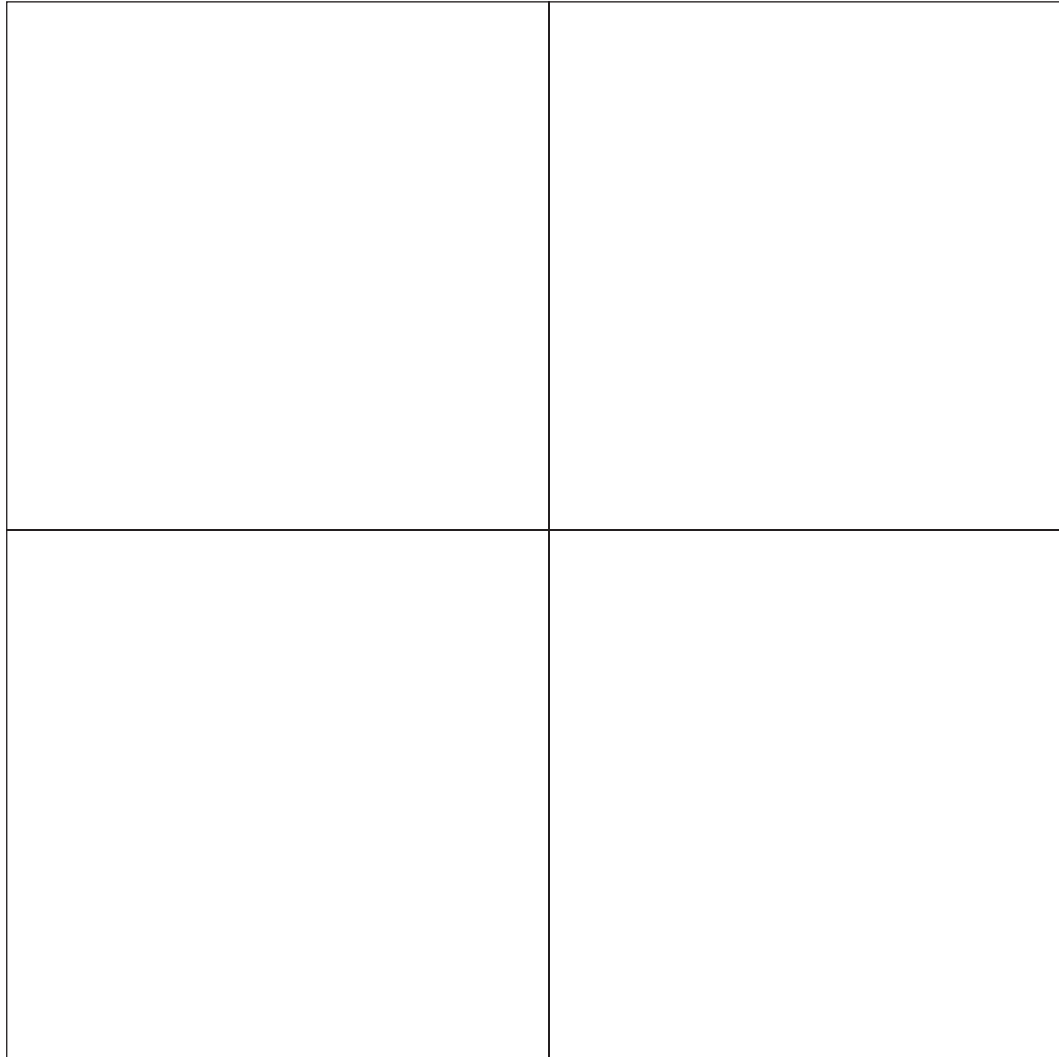


$\frac{1}{2}$ ?



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way? How can you prove your thinking?

B.



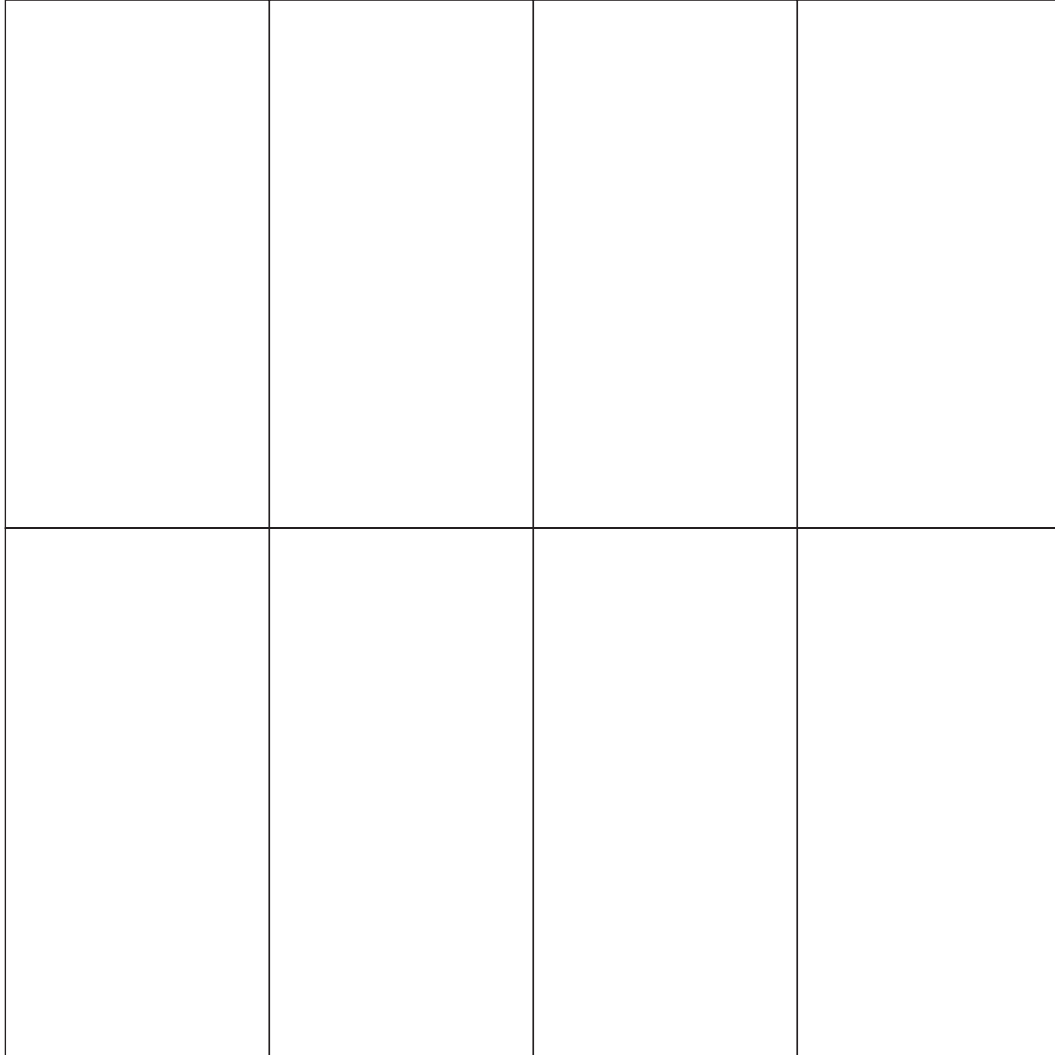
$$\frac{1}{2} ?$$

$$\frac{2}{4} ?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way? How can you prove your thinking?

C.



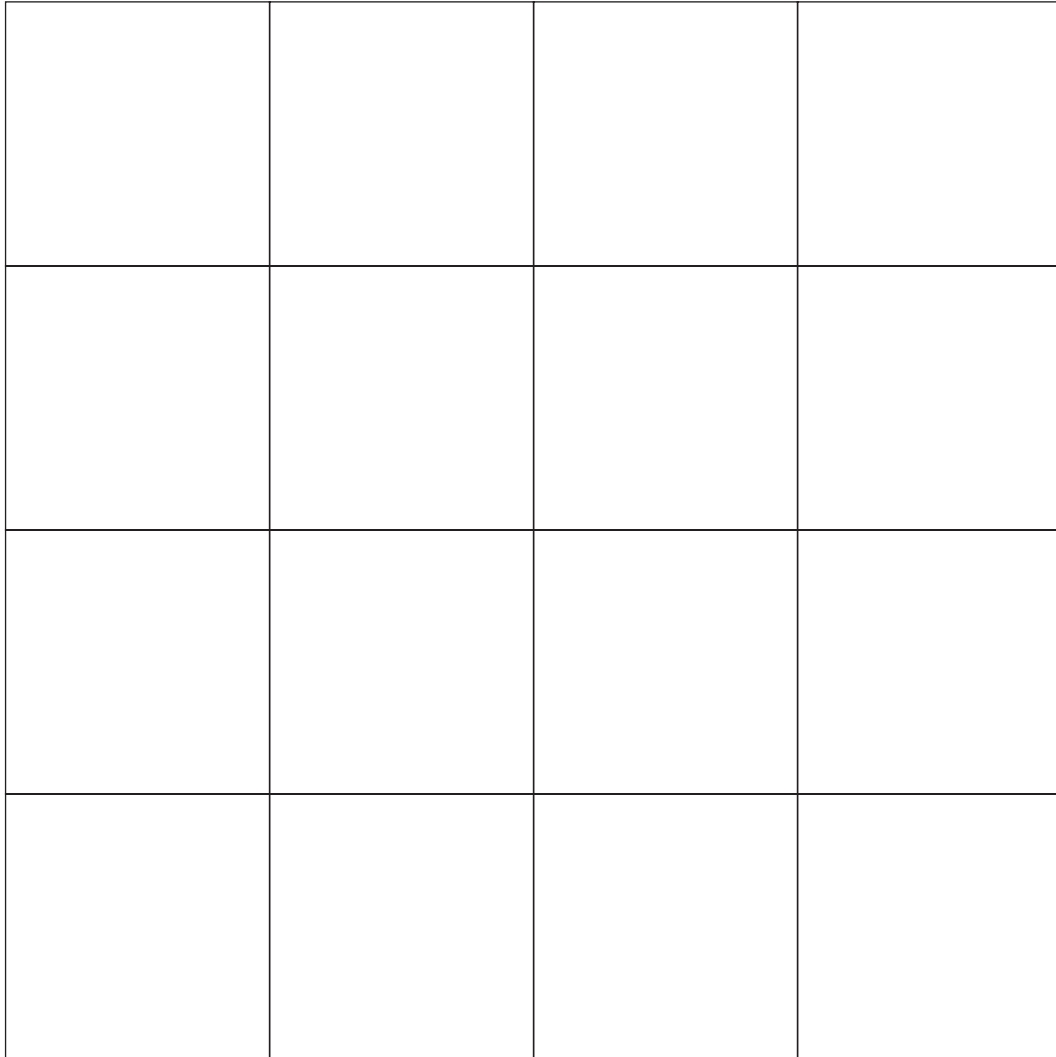
$$\frac{1}{2} ?$$

$$\frac{4}{8} ?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way? How can you prove your thinking?

D.



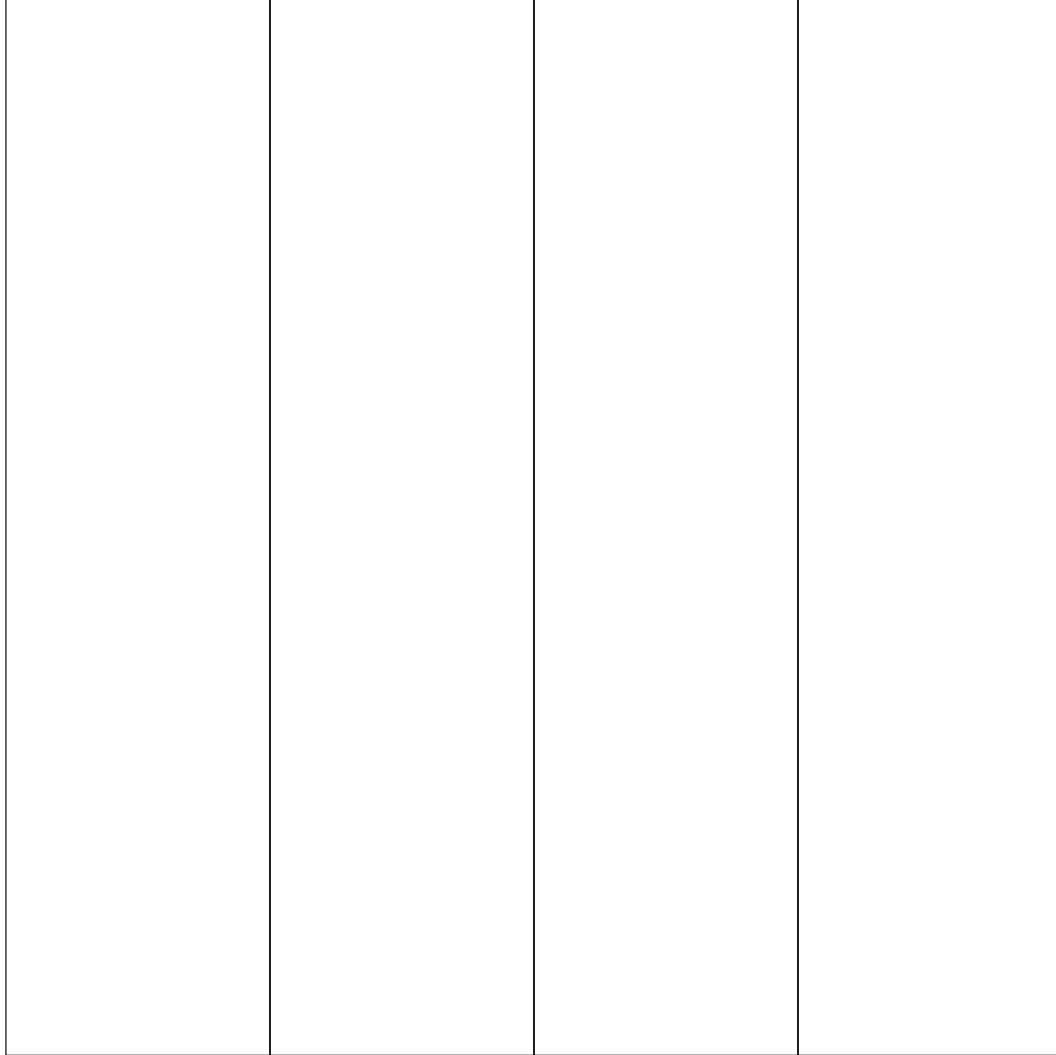
$$\frac{1}{2} ?$$

$$\frac{8}{16} ?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

A.

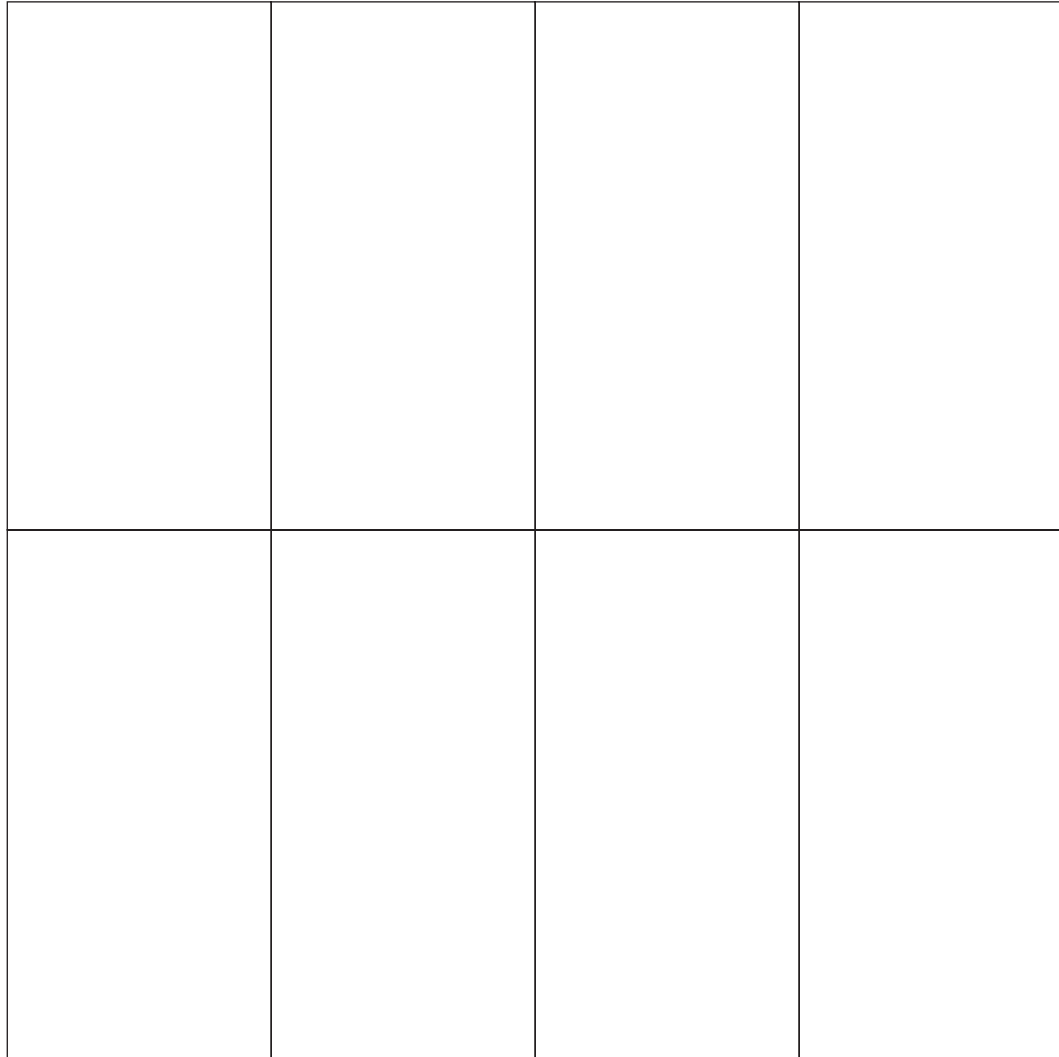


$\frac{1}{4}$  ?



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

B.



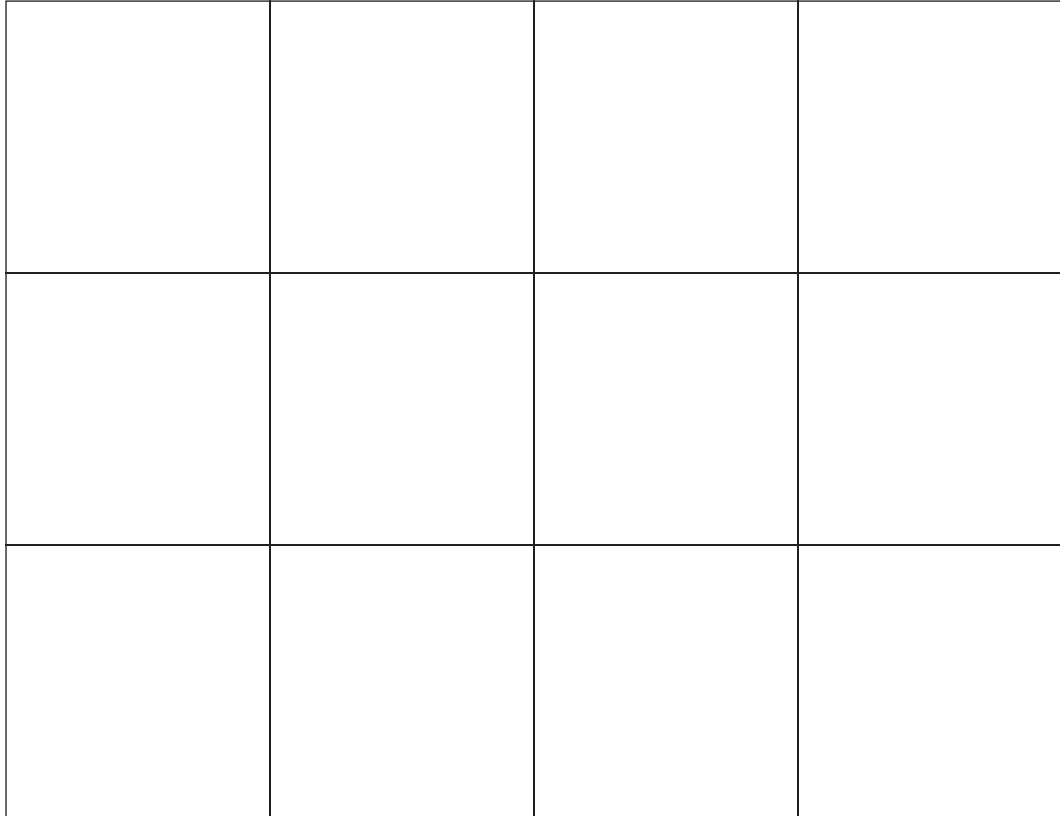
$$\frac{1}{4} ?$$

$$\frac{2}{8} ?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

C.



$$\frac{1}{4} ?$$

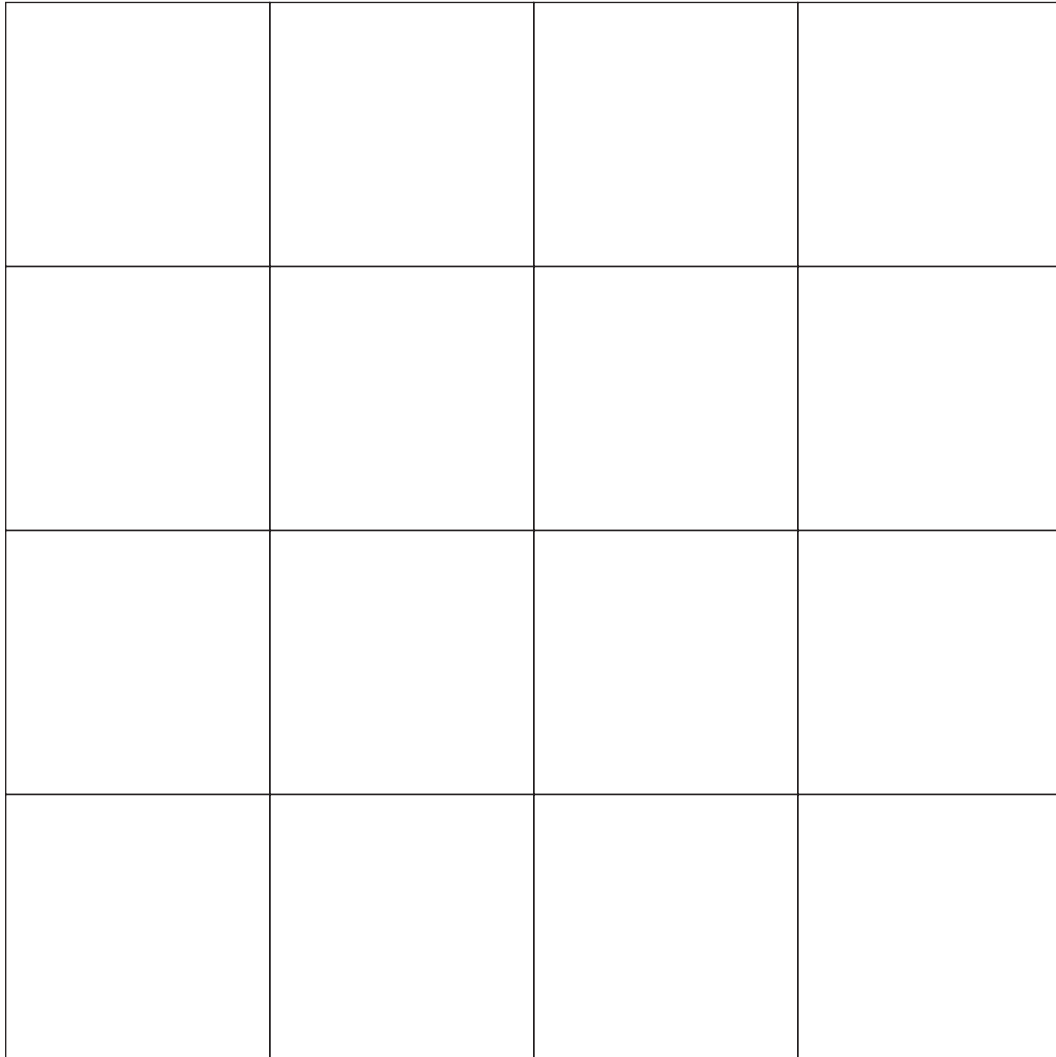
$$\frac{3}{12} ?$$





Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

D.



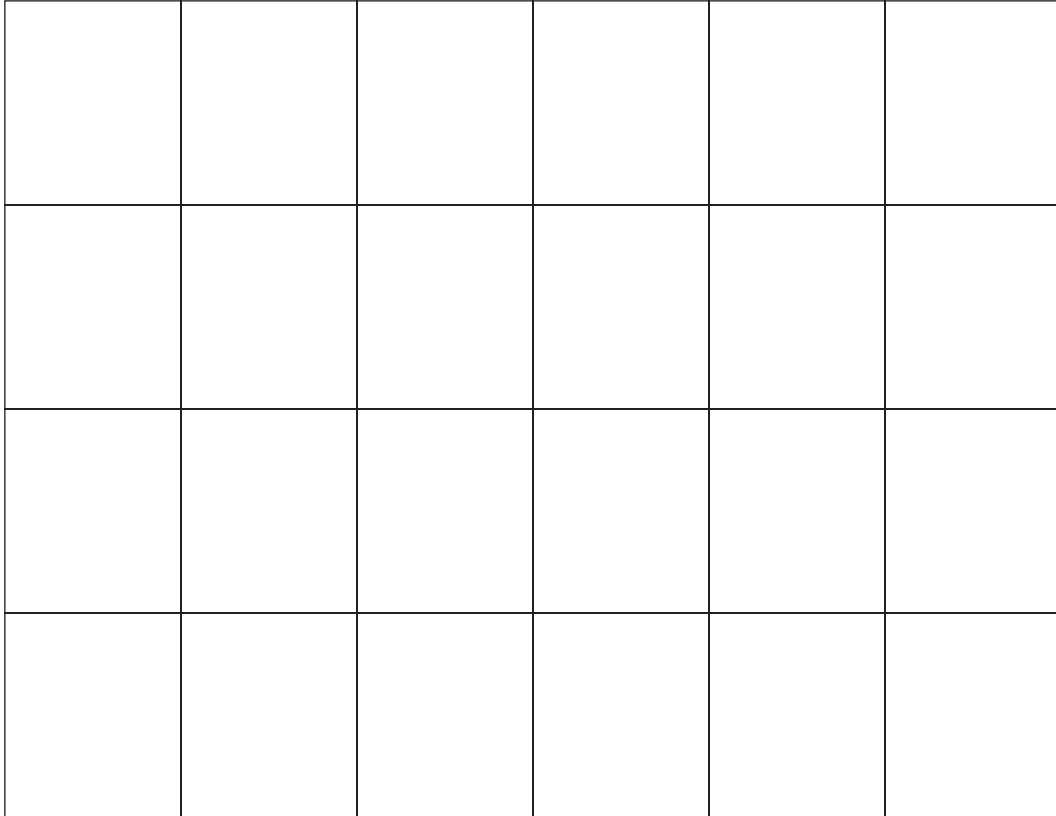
$$\frac{1}{4}?$$

$$\frac{4}{16}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

E.



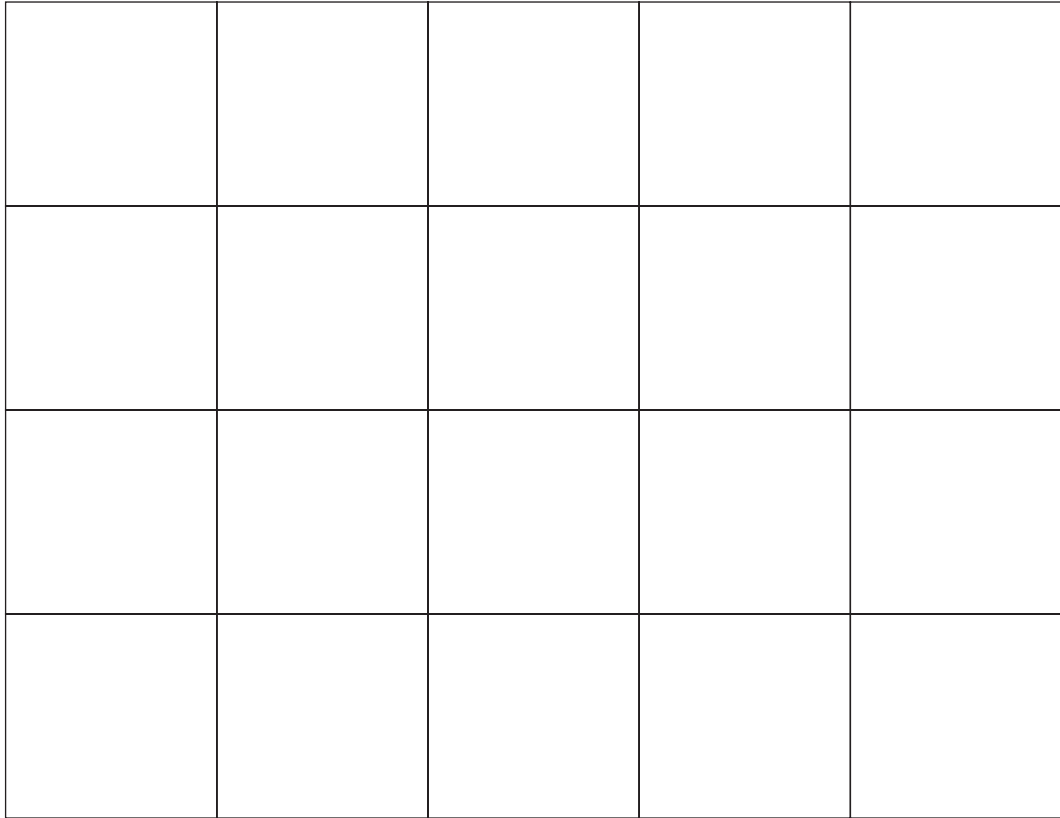
$$\frac{1}{4} ?$$

$$\frac{6}{24} ?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way? How can you prove your thinking?

F.



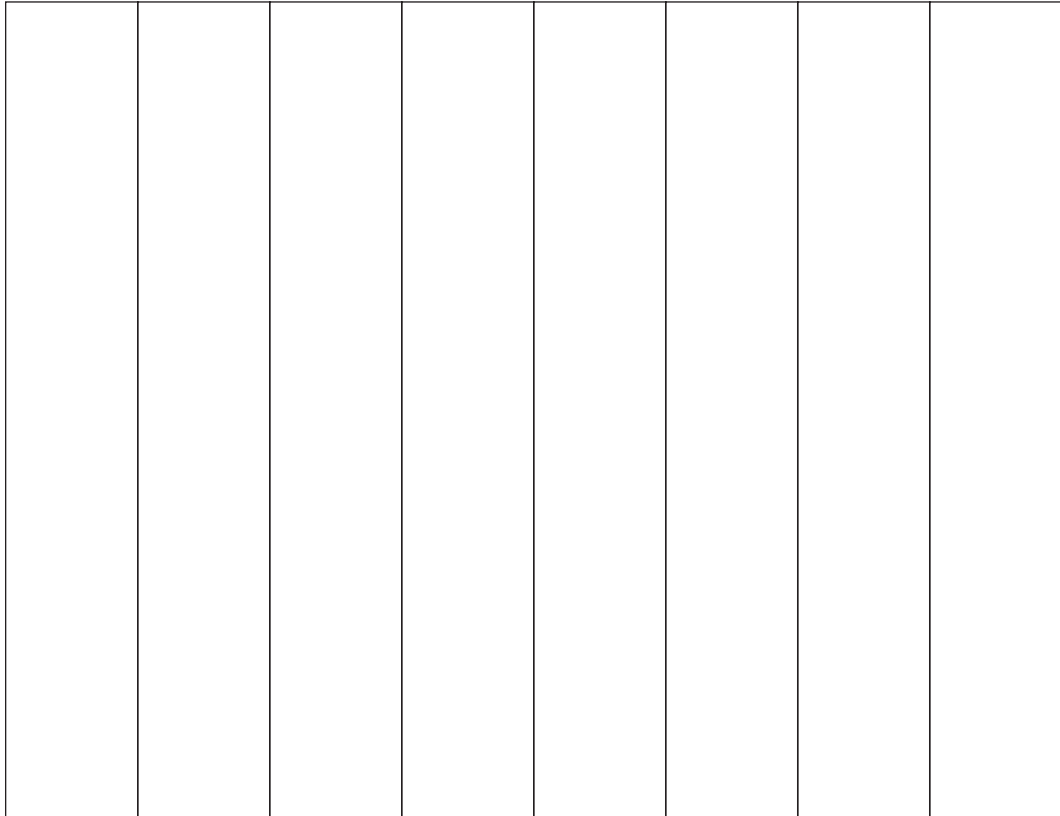
$$\frac{1}{4} ?$$

$$\frac{5}{20} ?$$



Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way? How can you prove your thinking?

A.

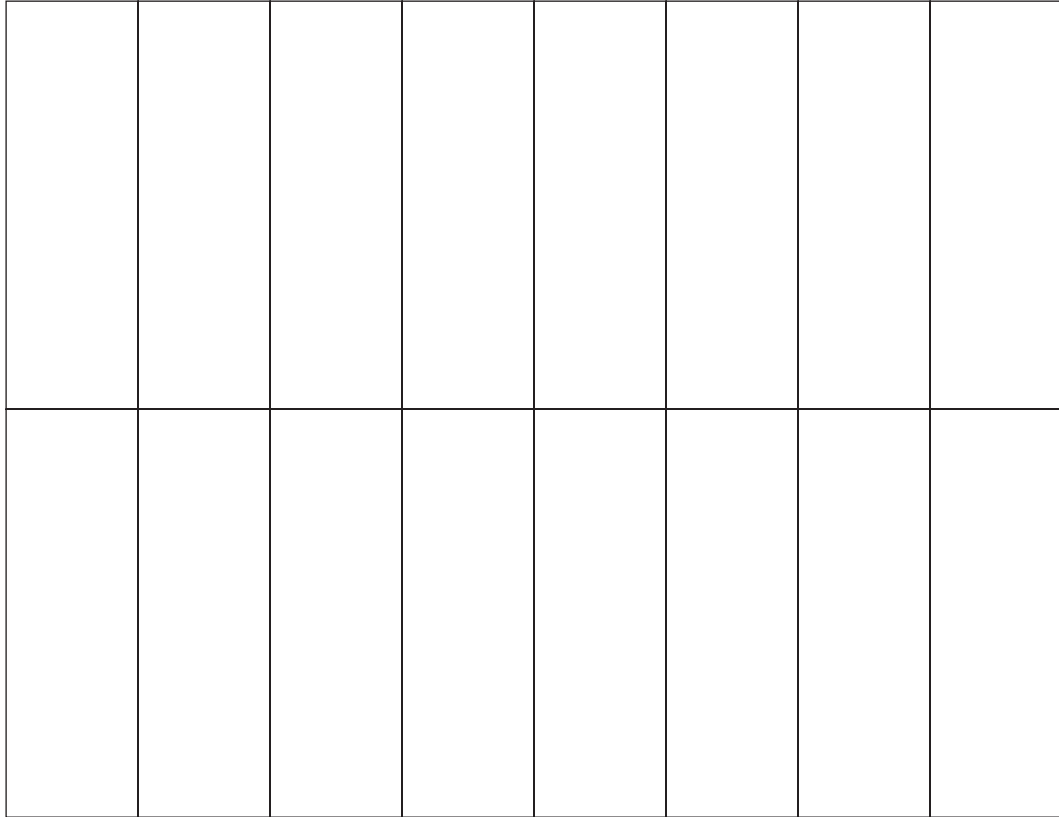


$$\frac{1}{8} ?$$



Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way? How can you prove your thinking?

B.



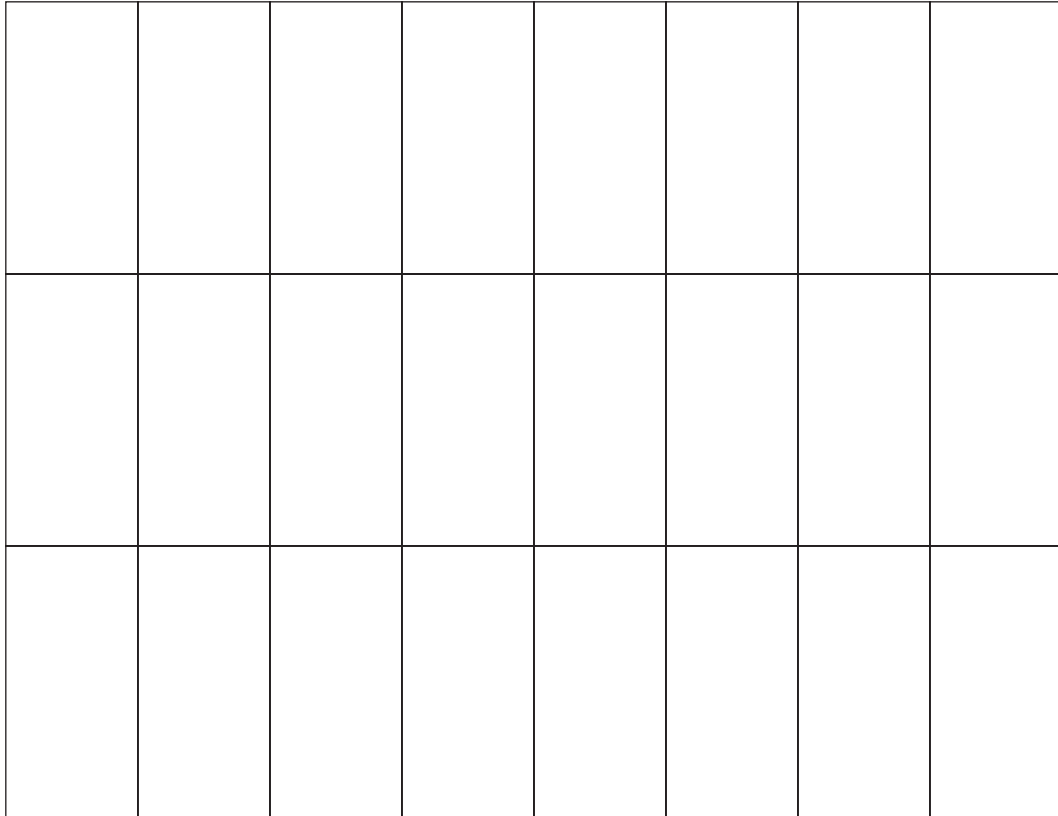
$$\frac{1}{8} ?$$

$$\frac{2}{16} ?$$



Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way? How can you prove your thinking?

C.



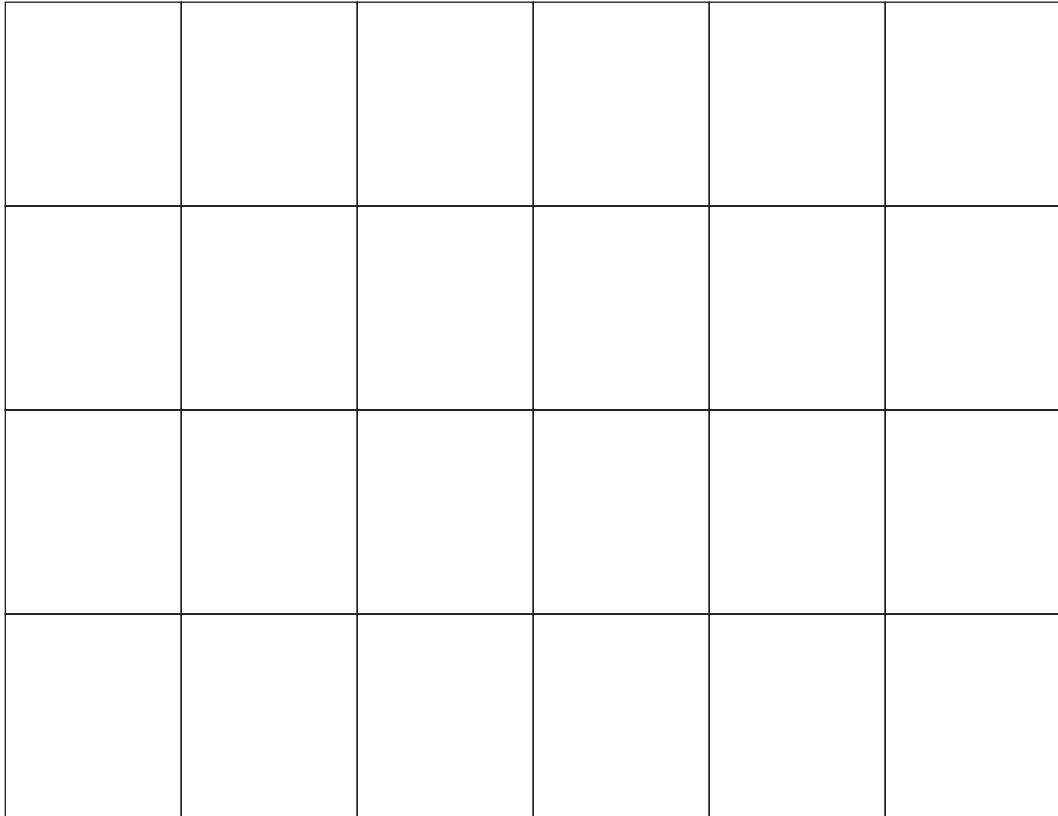
$$\frac{1}{8} ?$$

$$\frac{3}{24} ?$$



Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way? How can you prove your thinking?

D.



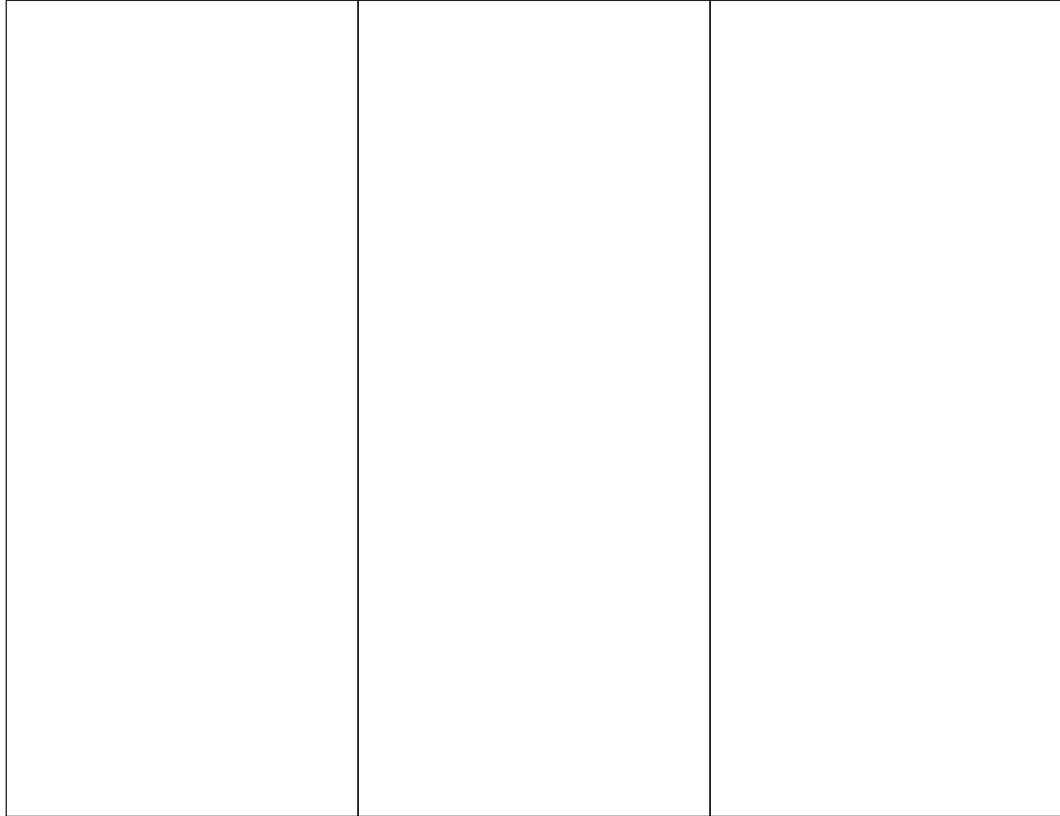
$$\frac{1}{8} ?$$

$$\frac{3}{24} ?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way? How can you prove your thinking?

A.



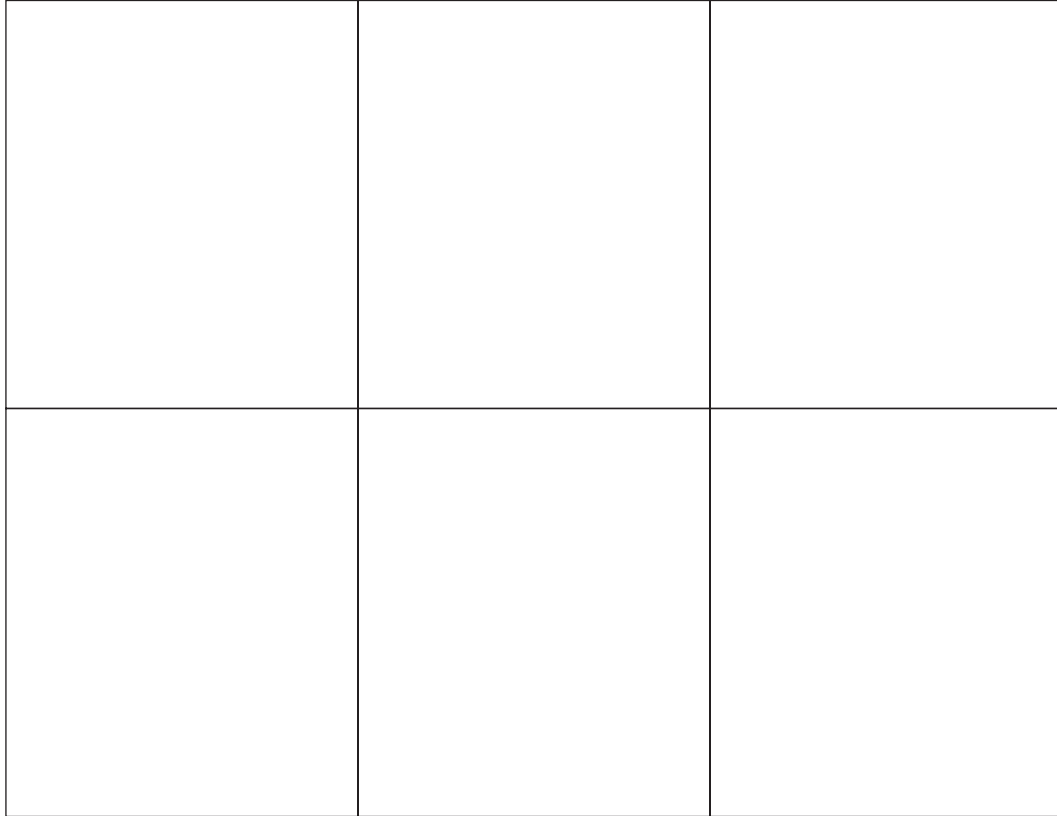
$$\frac{1}{3} ?$$





Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way? How can you prove your thinking?

B.



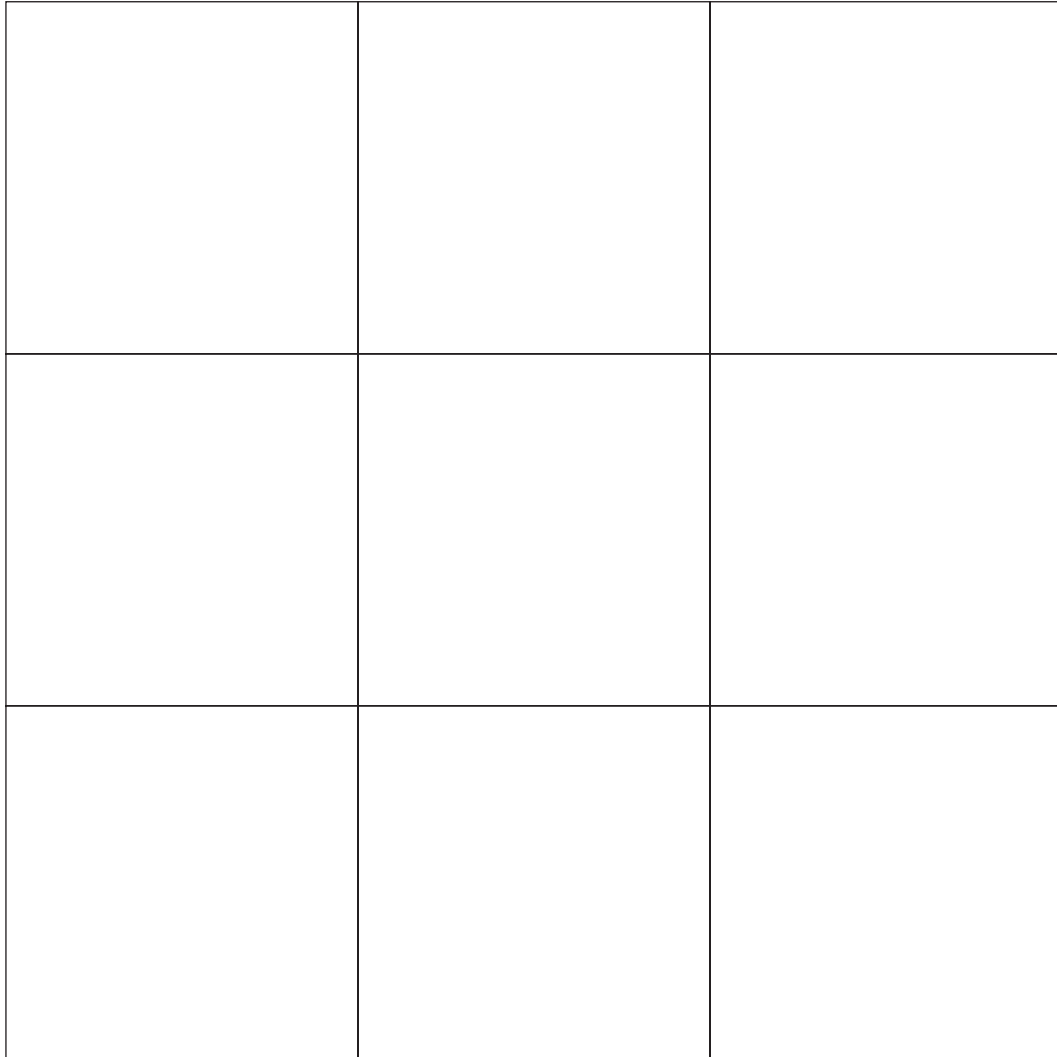
$$\frac{1}{3} ?$$

$$\frac{2}{6} ?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way? How can you prove your thinking?

C.



$$\frac{1}{3}?$$

$$\frac{3}{9}?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way? How can you prove your thinking?

D.

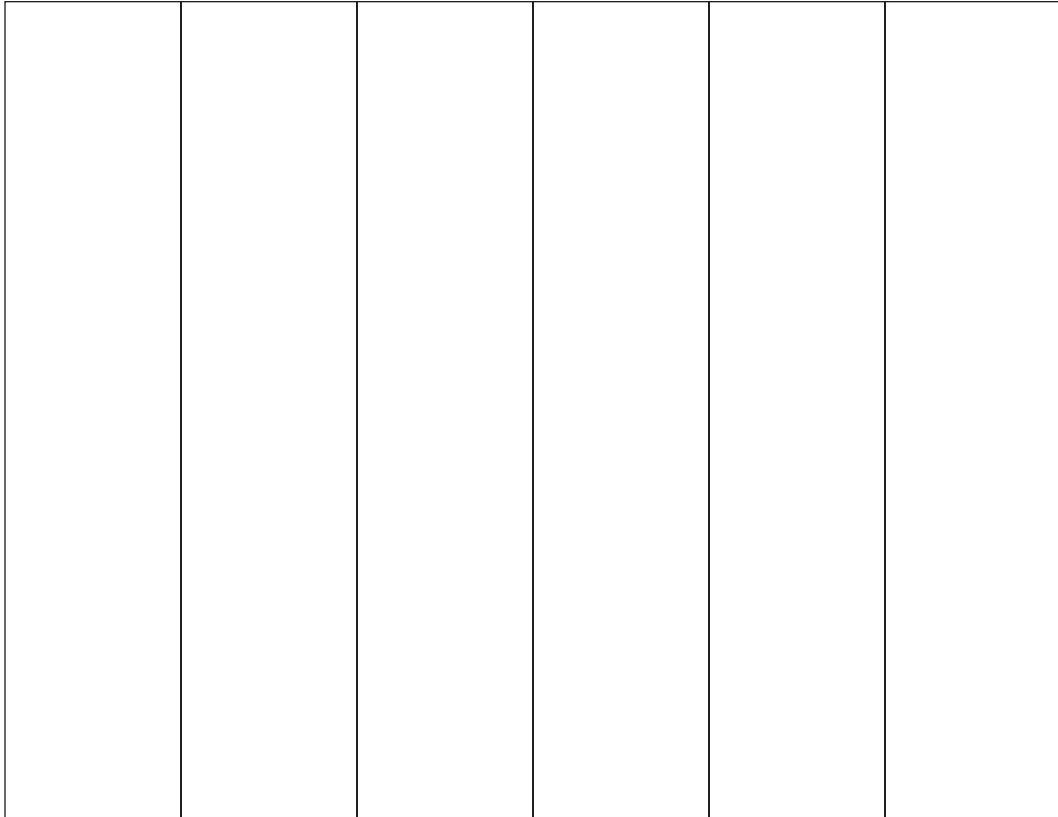

$$\frac{1}{3} ?$$

$$\frac{4}{12} ?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

A.

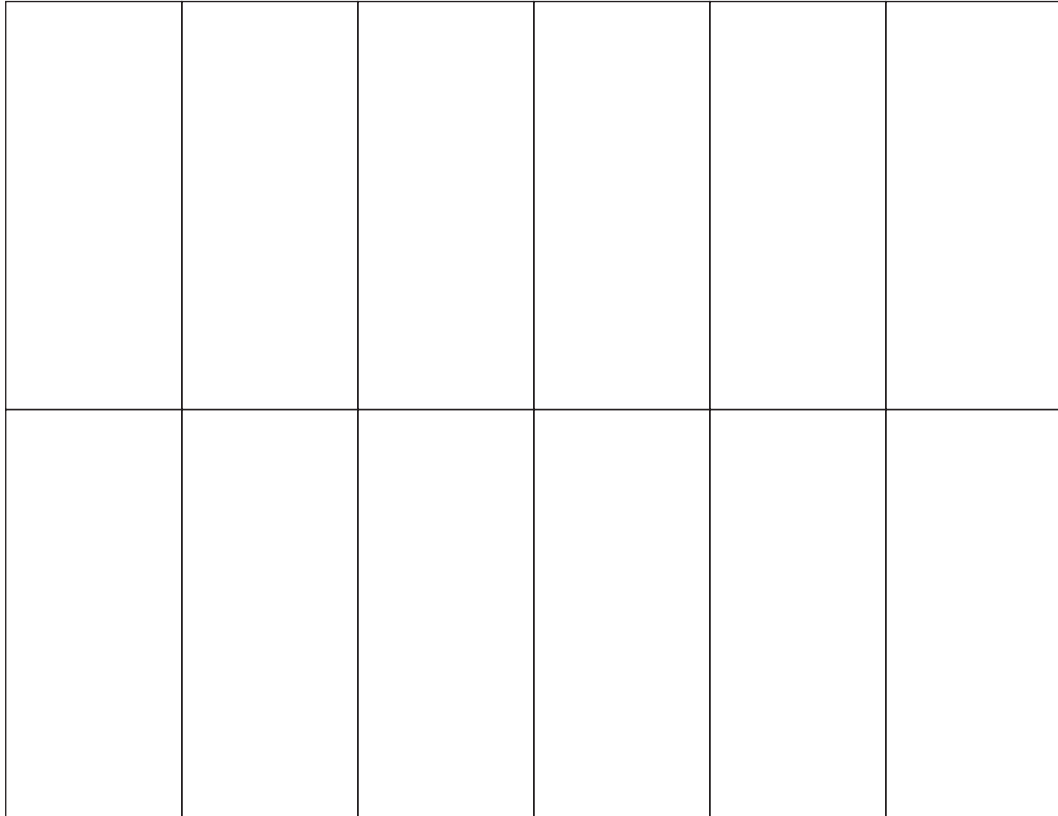


$$\frac{1}{6}?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

B.



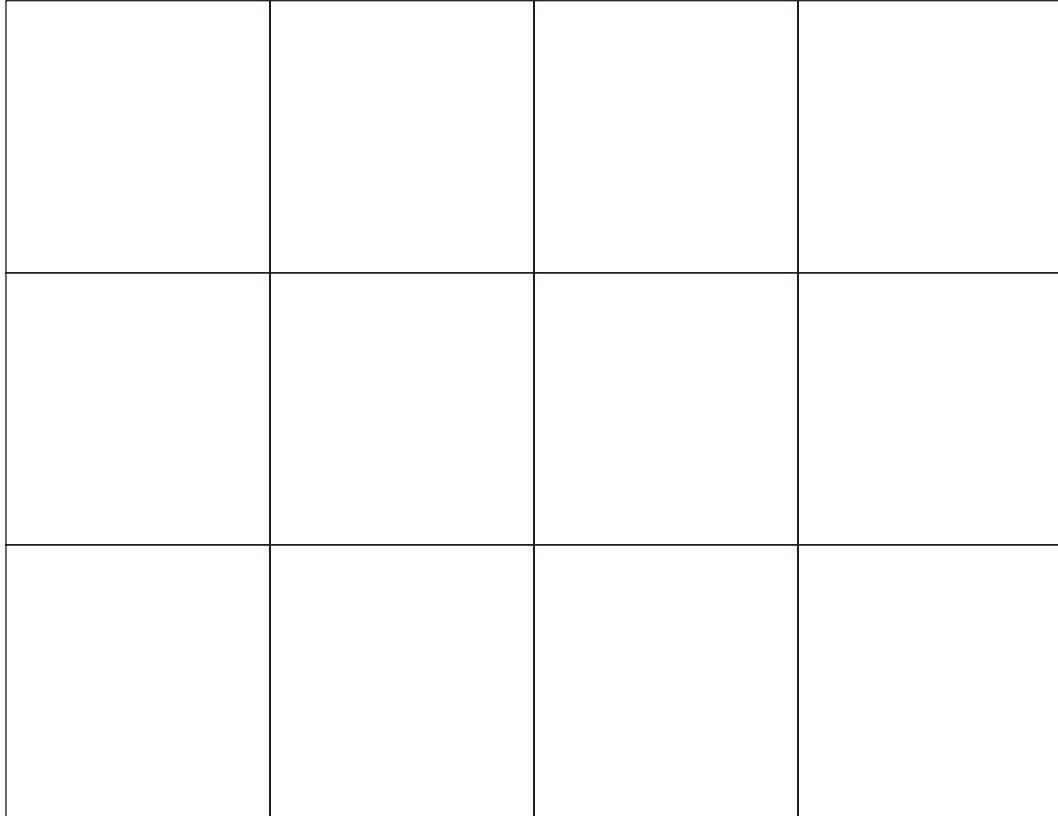
$$\frac{1}{6}?$$

$$\frac{2}{12}?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

C.



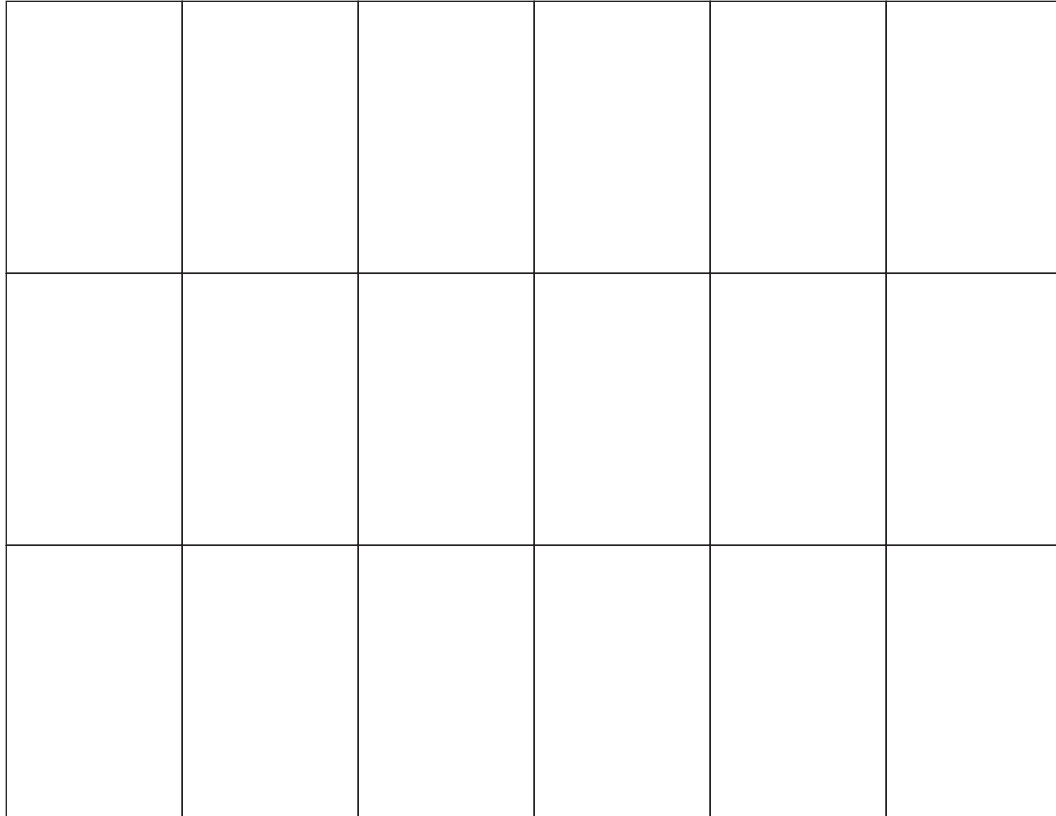
$$\frac{1}{6}?$$

$$\frac{2}{12}?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

D.



$$\frac{1}{6}?$$

$$\frac{3}{18}?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

E.


$$\frac{1}{6}?$$

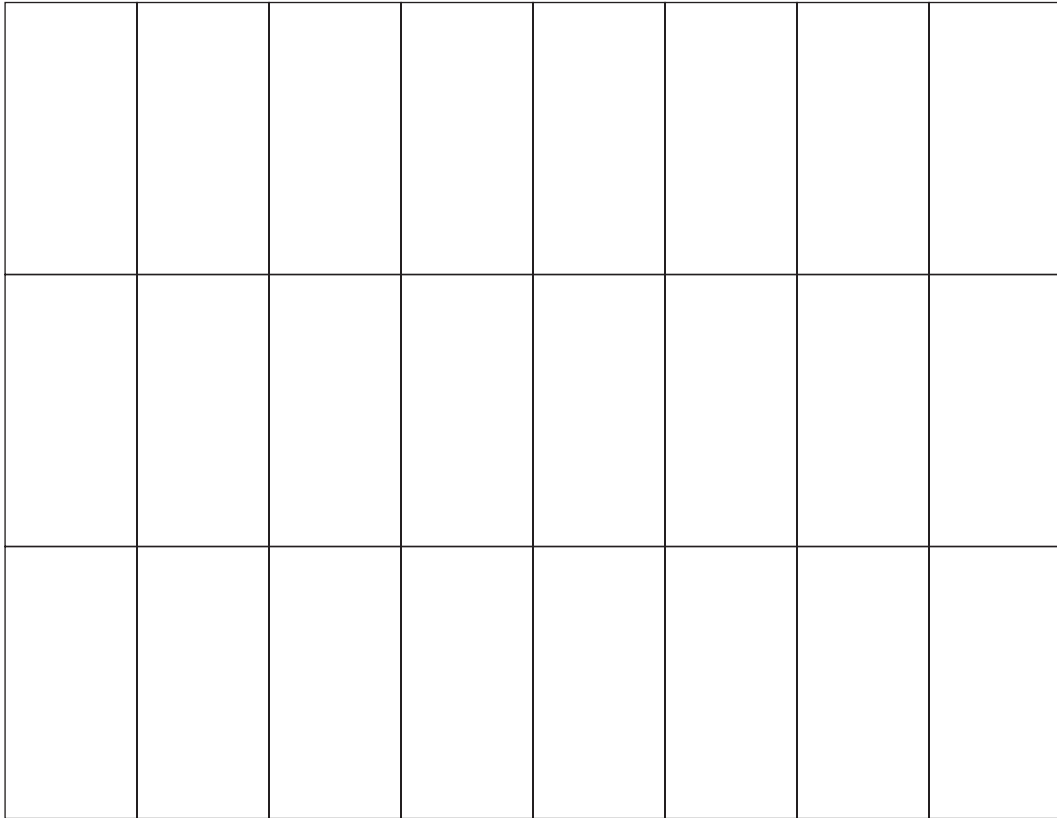
$$\frac{4}{24}?$$





Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way? How can you prove your thinking?

F.



$$\frac{1}{6}?$$

$$\frac{4}{24}?$$

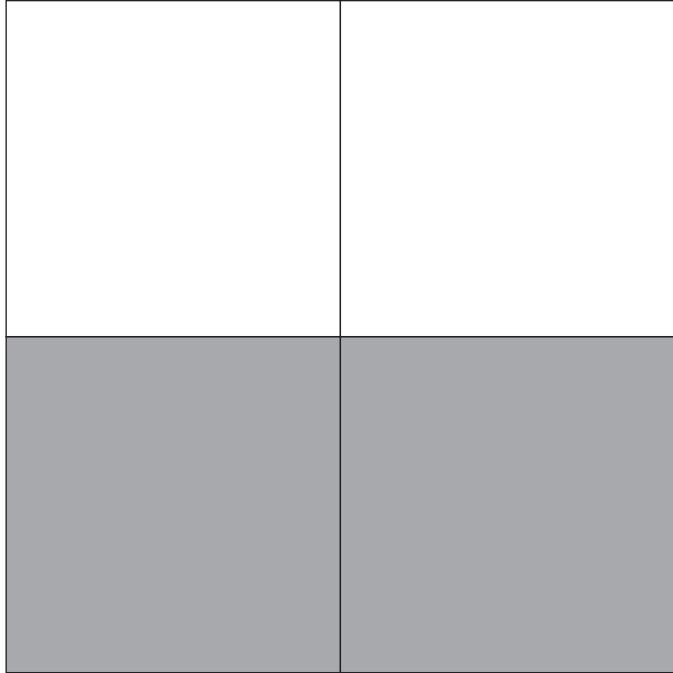




How can you solve  $\frac{1}{2} + \frac{1}{2}$ ?

How can you use what we already know to solve this next problem?

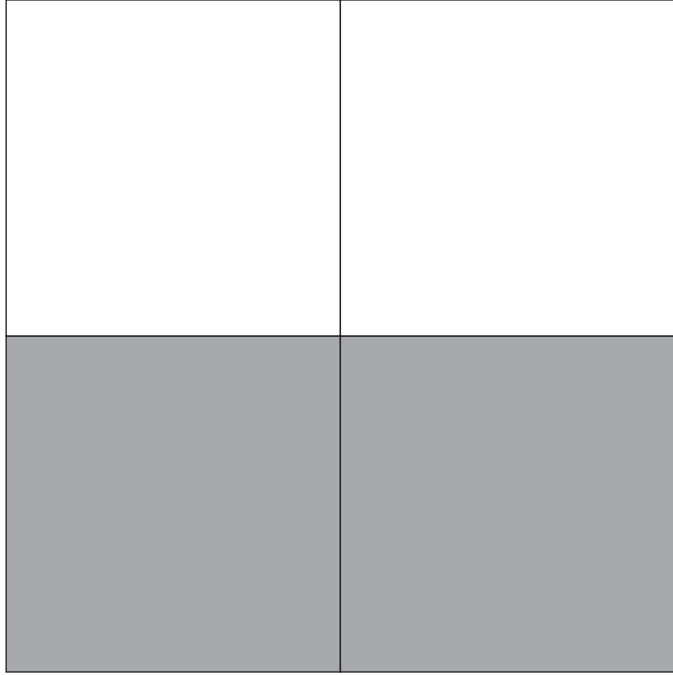
A.



$$\frac{1}{2}$$

+

$$\frac{1}{2}$$

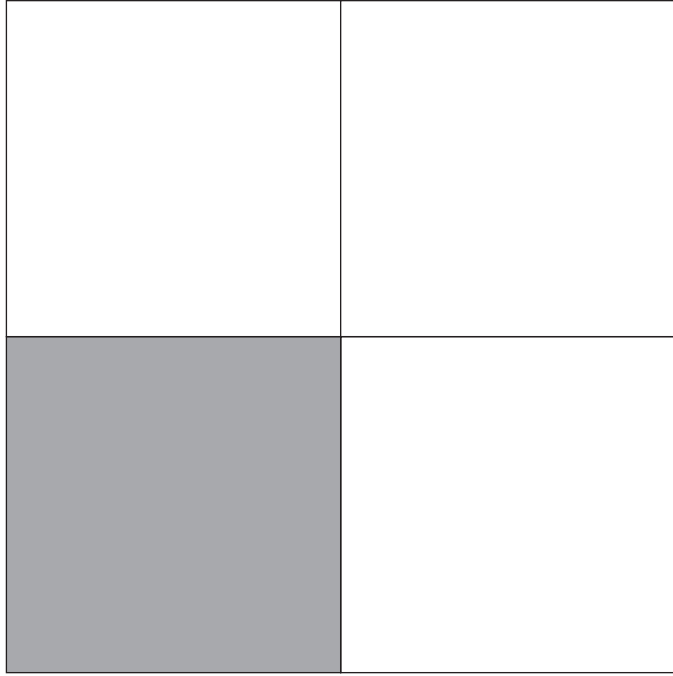




How can you solve \_\_\_ + \_\_\_?

How can you use what we already know to solve this next problem?

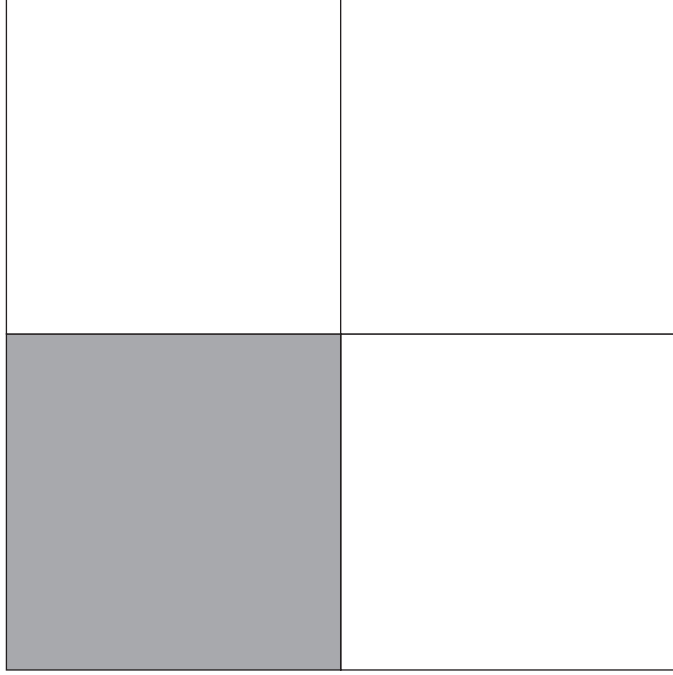
A.



$$1 \frac{1}{4}$$

+

$$1 \frac{1}{4}$$

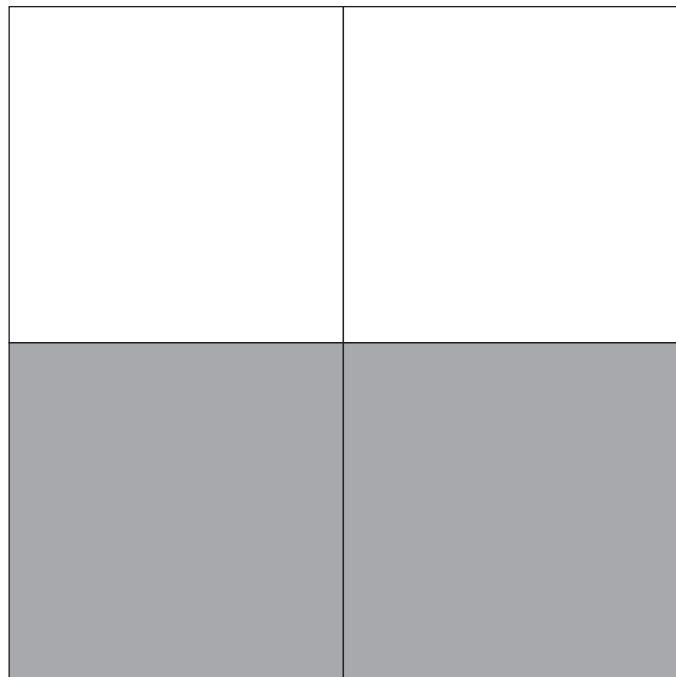




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

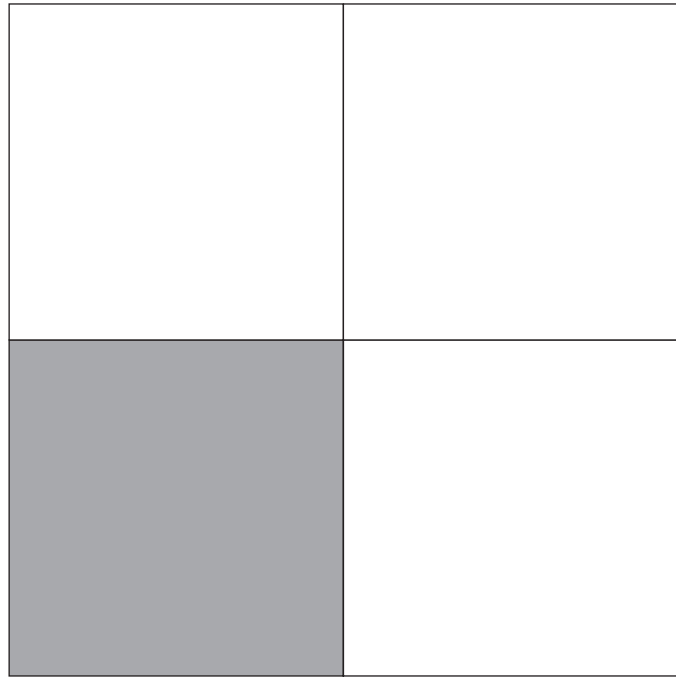
A.



$$1 \frac{1}{2}$$

+

$$1 \frac{1}{4}$$

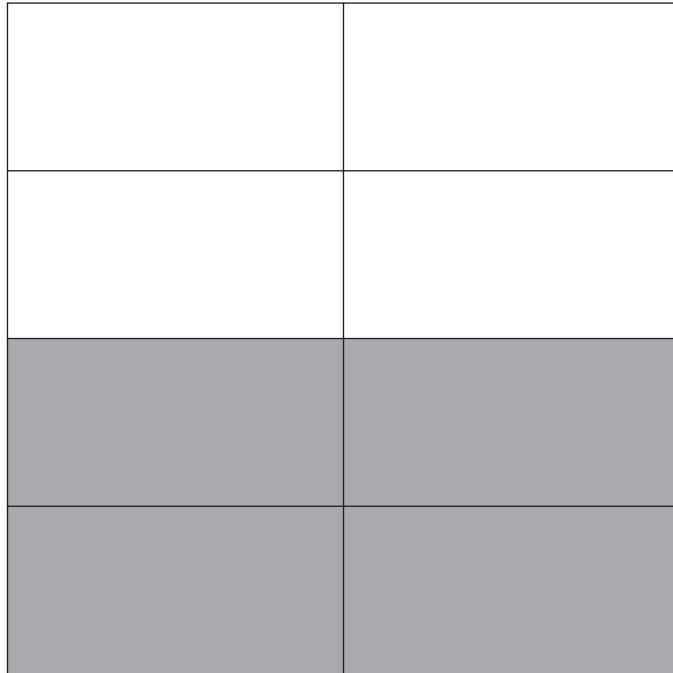




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

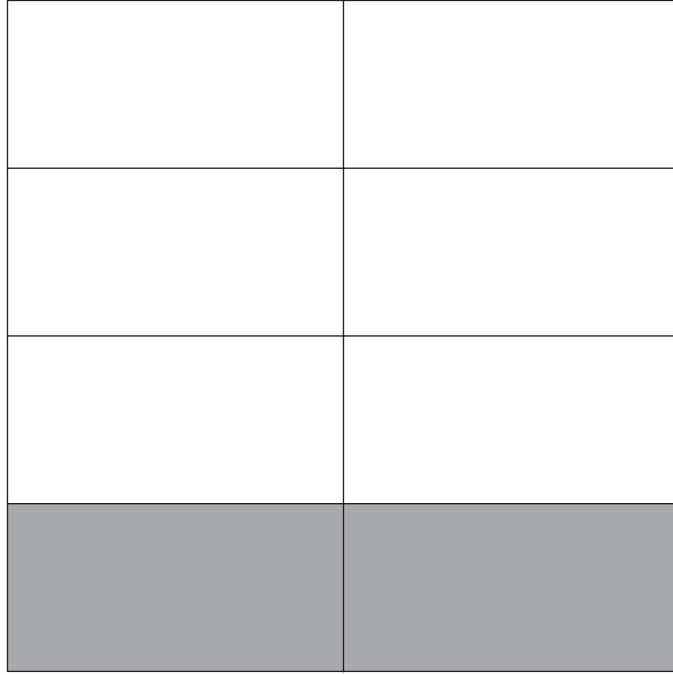
**B.**



$$1 \frac{1}{2}$$

+

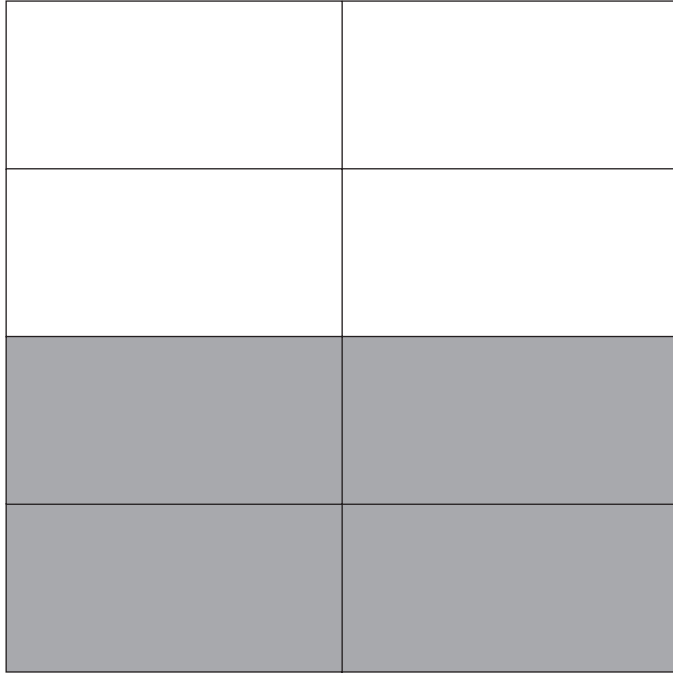
$$\frac{1}{4}$$





How can you solve  $\frac{1}{2} + \frac{1}{8}$ ?  
 How can you use what we already know to solve this next problem?

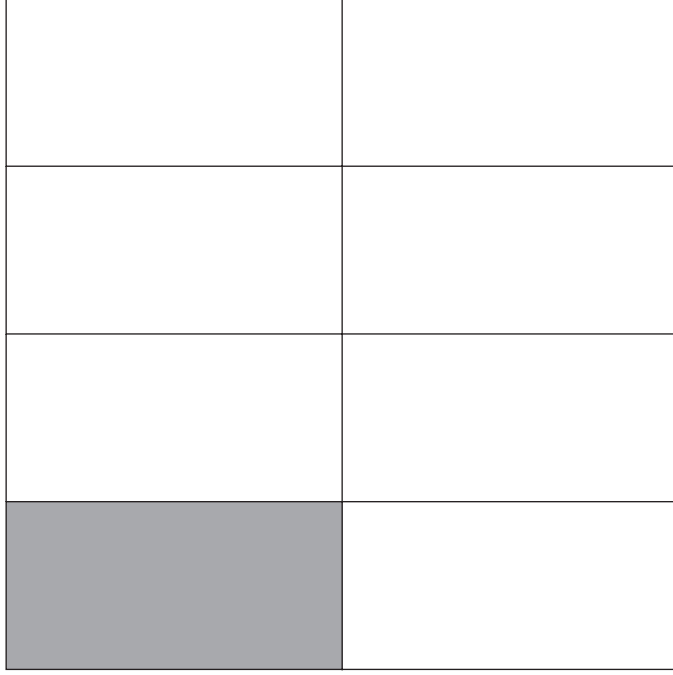
B.



$$1 \frac{1}{2}$$

+

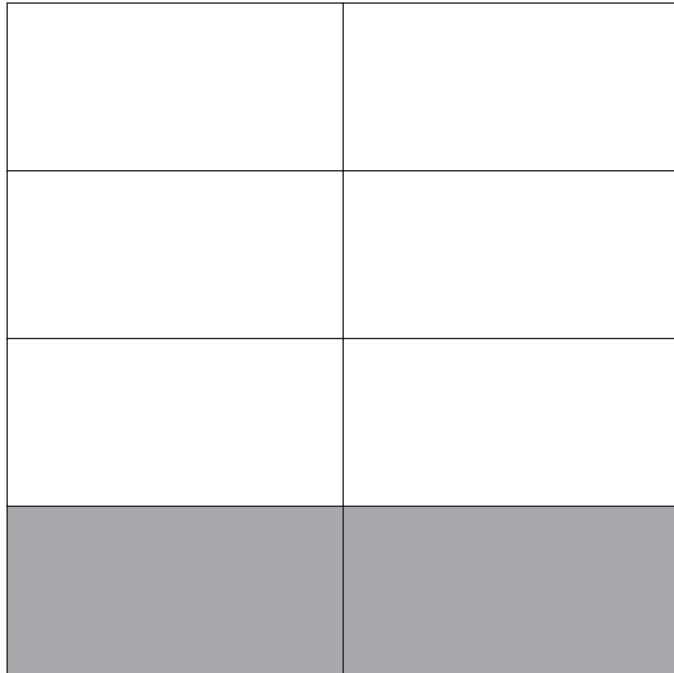
$$1 \frac{1}{8}$$





How can you solve  $\frac{1}{4} + \frac{1}{8}$ ?  
 How can you use what we already know to solve this next problem?

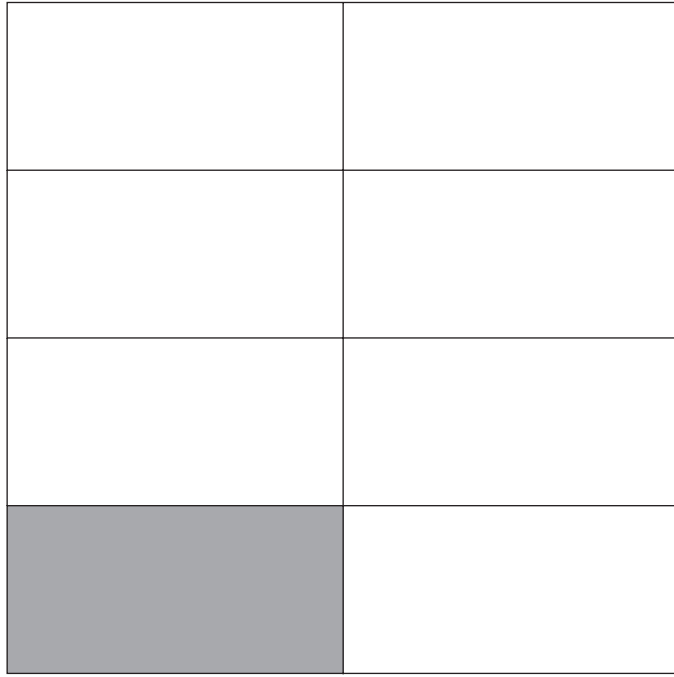
B.



$$\frac{1}{4}$$

+

$$\frac{1}{8}$$





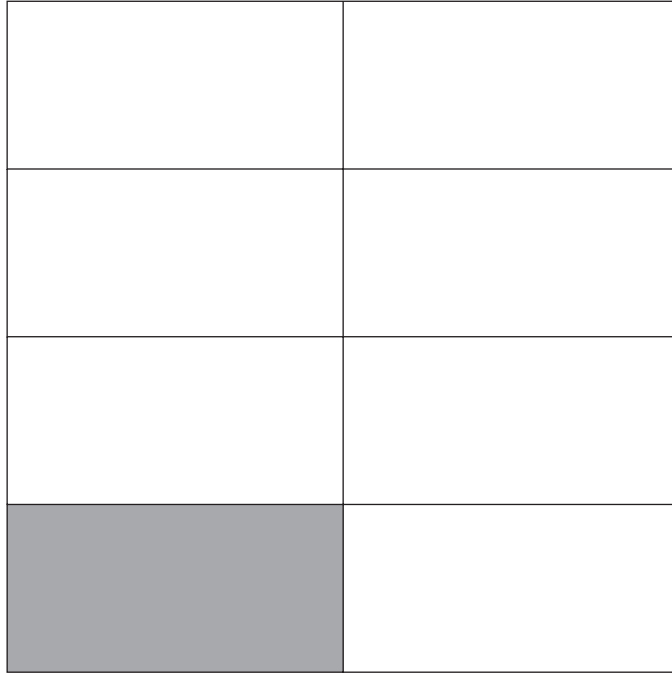




How can you solve \_\_\_ + \_\_\_?

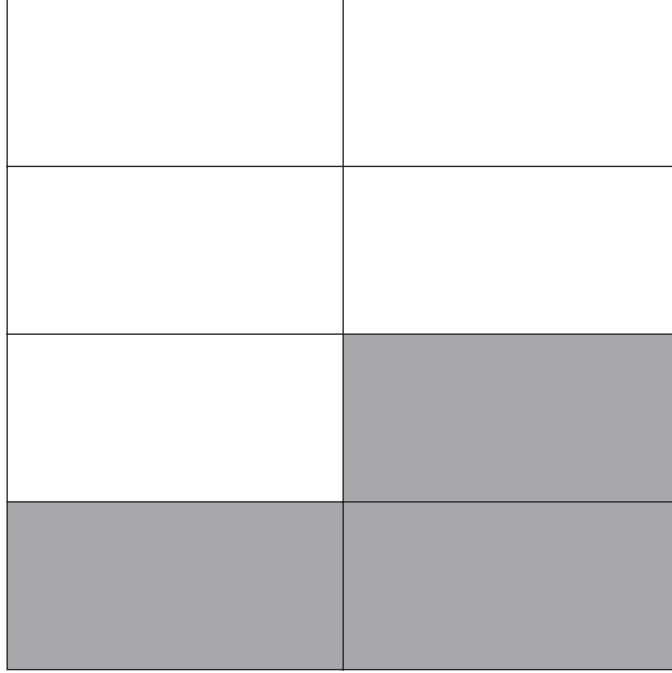
How can you use what we already know to solve this next problem?

C.



$$1 \frac{1}{8}$$

+



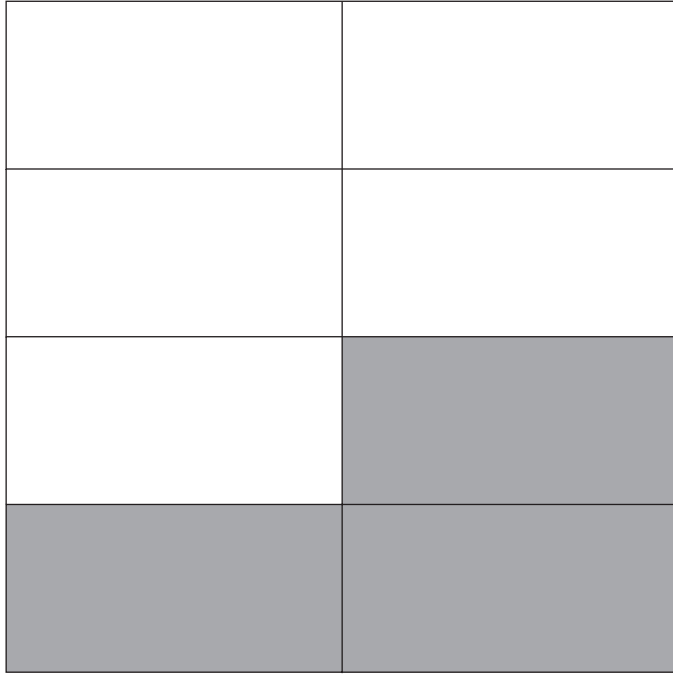
$$3 \frac{5}{8}$$

$1 \frac{1}{8} + 3 \frac{5}{8} =$



How can you solve  $\frac{3}{4} + \frac{1}{8}$ ?  
How can you use what we already know to solve this next problem?

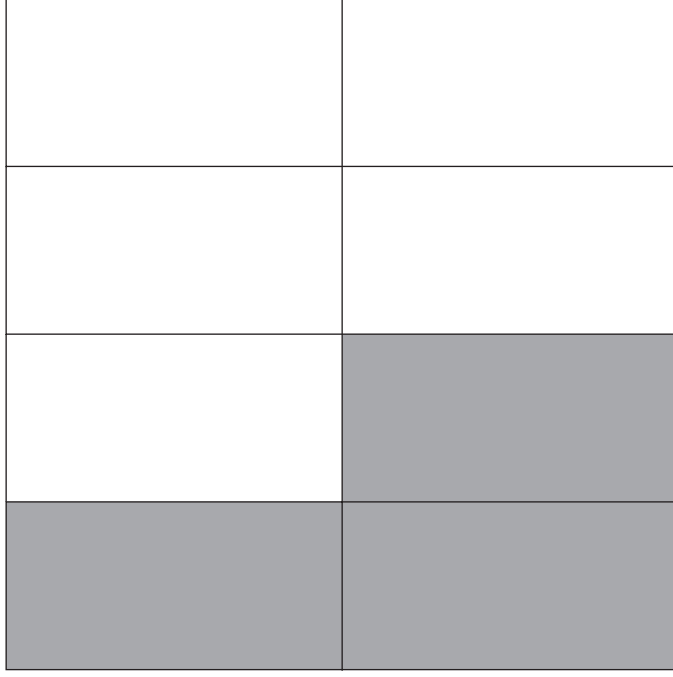
C.



$$\frac{3}{4}$$

+

$$\frac{1}{8}$$

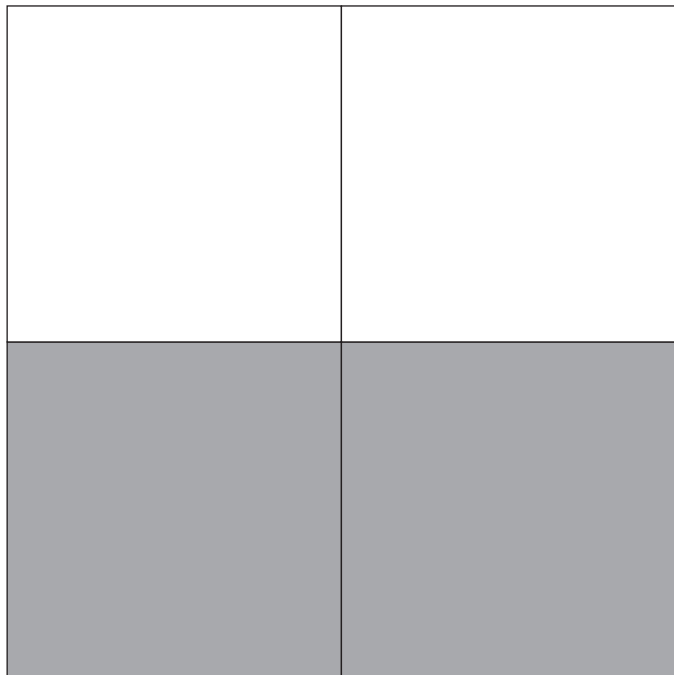




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

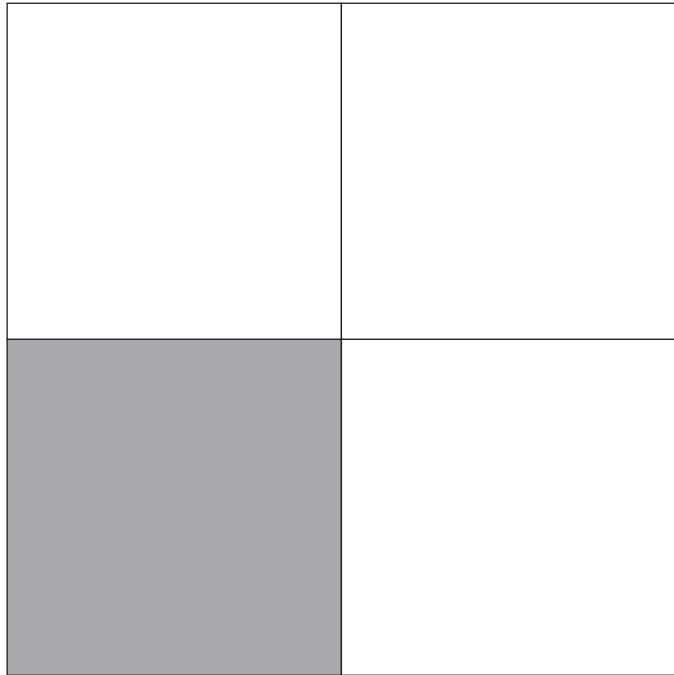
D.



$$1 \frac{1}{2}$$

+

$$1 \frac{1}{4}$$

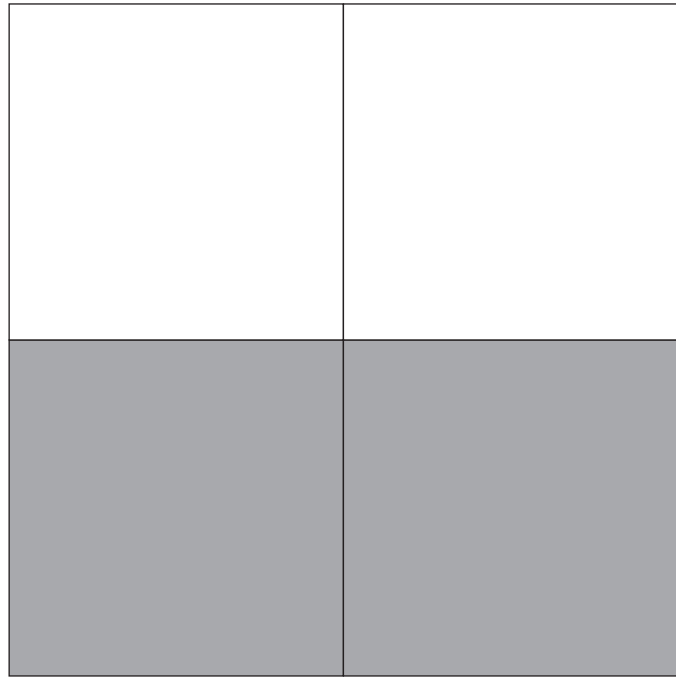




How can you solve  $\frac{1}{2} + \frac{3}{4}$ ?

How can you use what we already know to solve this next problem?

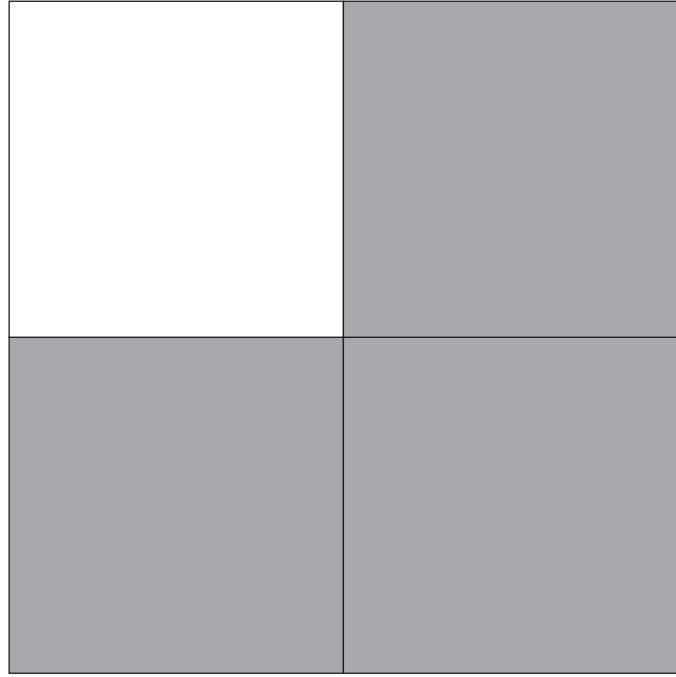
D.



$$1 \frac{1}{2}$$

+

$$\frac{3}{4}$$

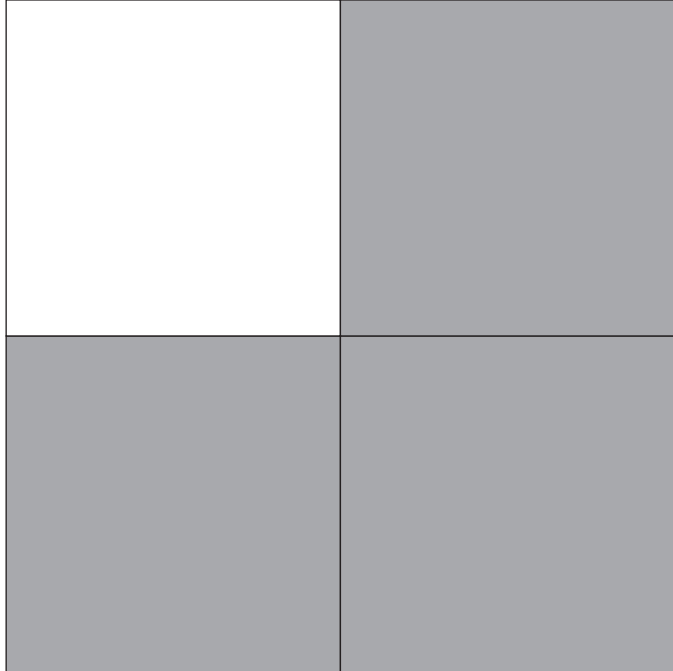




How can you solve  $\frac{3}{4} + \frac{3}{4}$ ?

How can you use what we already know to solve this next problem?

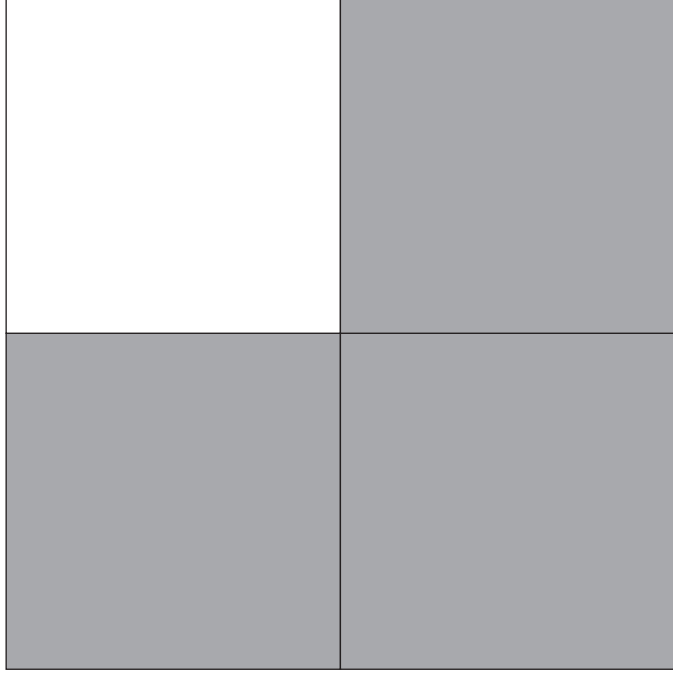
D.



$$\frac{3}{4}$$

+

$$\frac{3}{4}$$

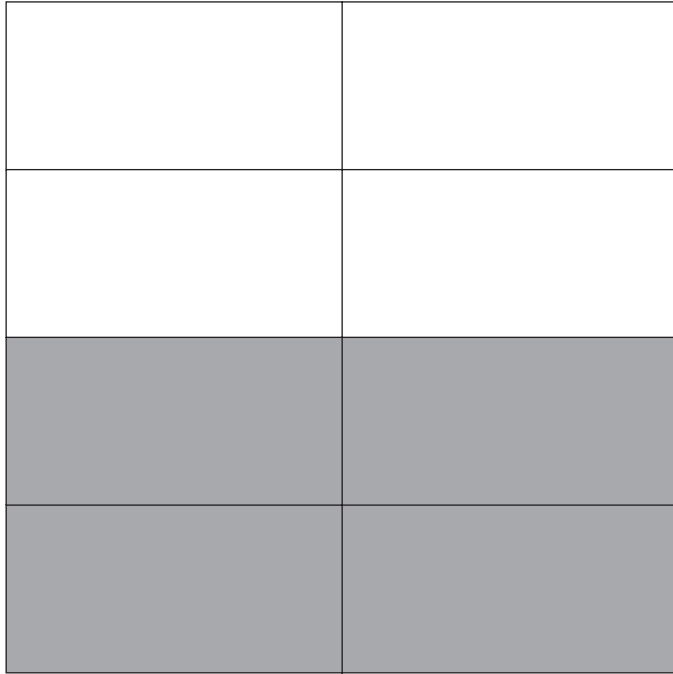




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

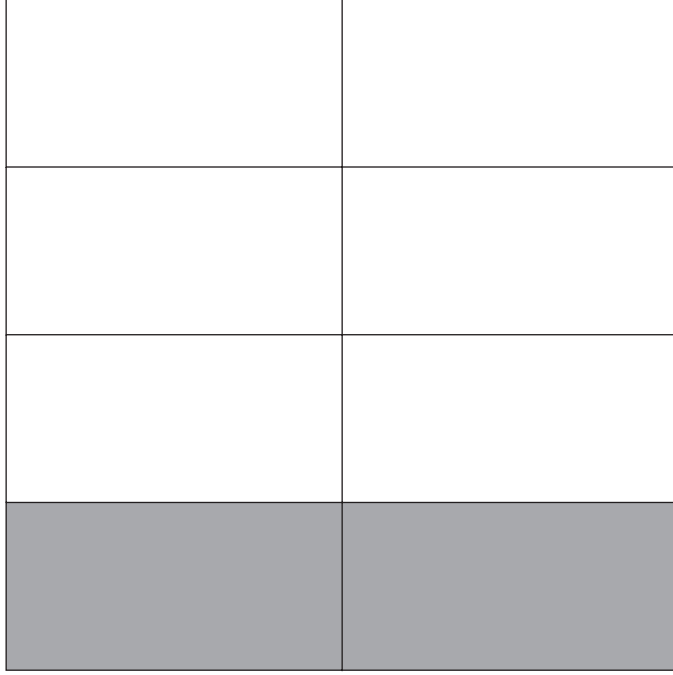
**E.**



$$1 \frac{1}{2}$$

+

$$1 \frac{1}{4}$$

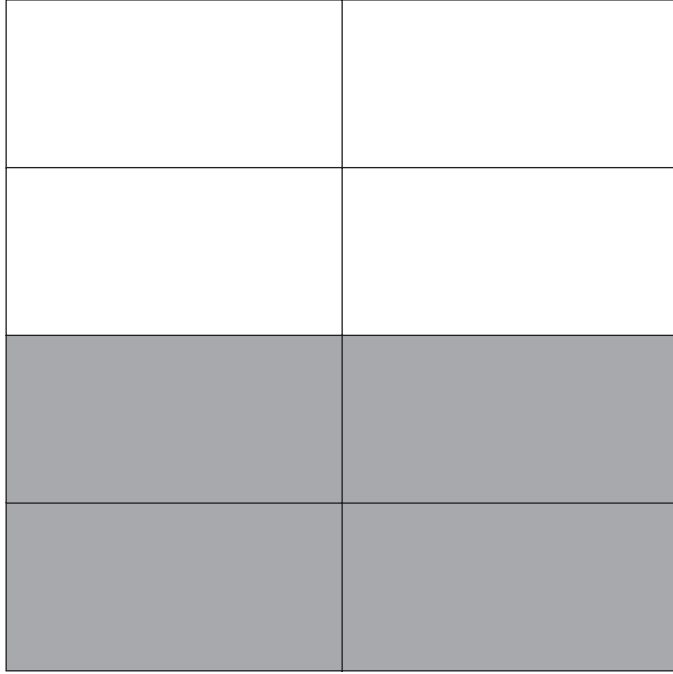




How can you solve  $\frac{1}{2} + \frac{3}{4}$ ?

How can you use what we already know to solve this next problem?

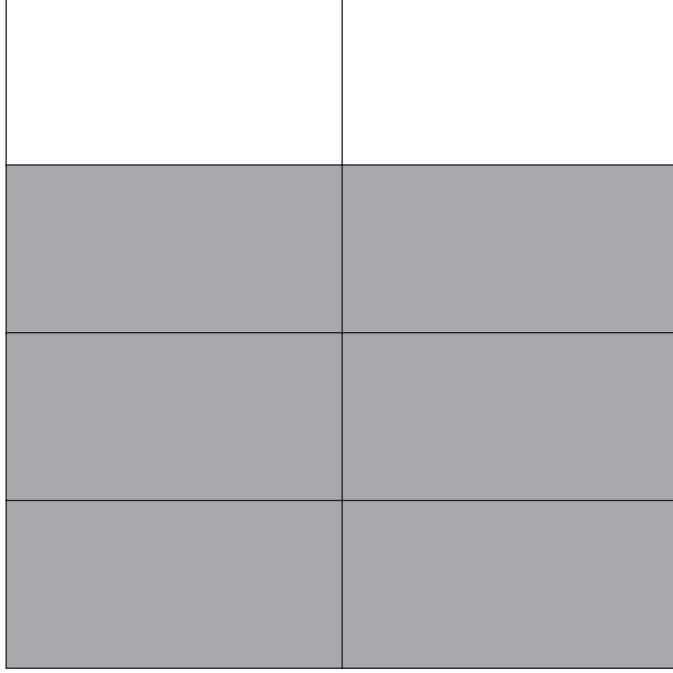
**E.**



$$1 \frac{1}{2}$$

+

$$\frac{3}{4}$$

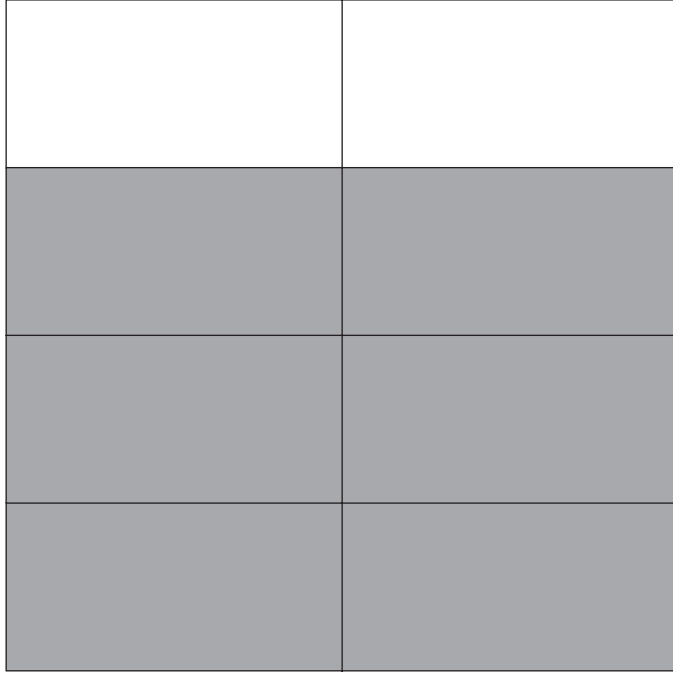




How can you solve  $\frac{6}{8} + \frac{3}{4}$ ?

How can you use what we already know to solve this next problem?

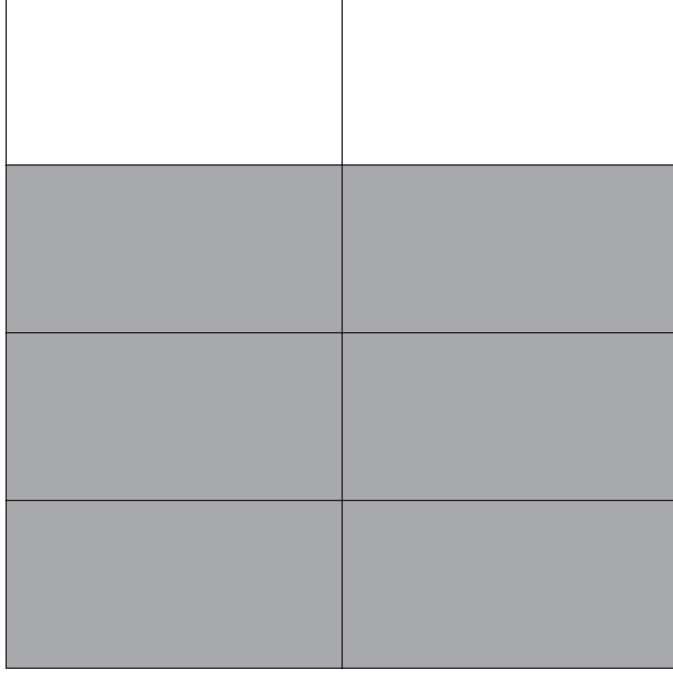
**E.**



$$\frac{6}{8}$$

+

$$\frac{3}{4}$$



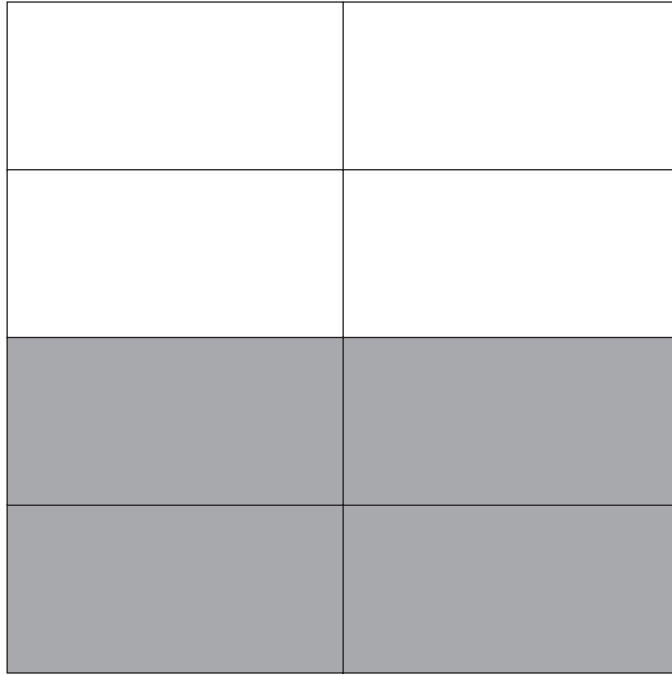




How can you solve  $\frac{1}{2} + \frac{3}{8}$ ?

How can you use what we already know to solve this next problem?

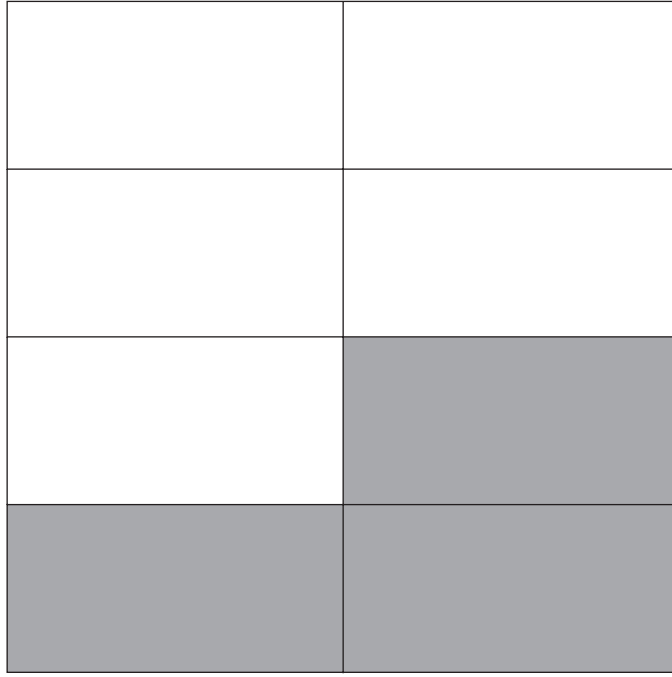
**F.**



$$1 \frac{1}{2}$$

+

$$\frac{3}{8}$$

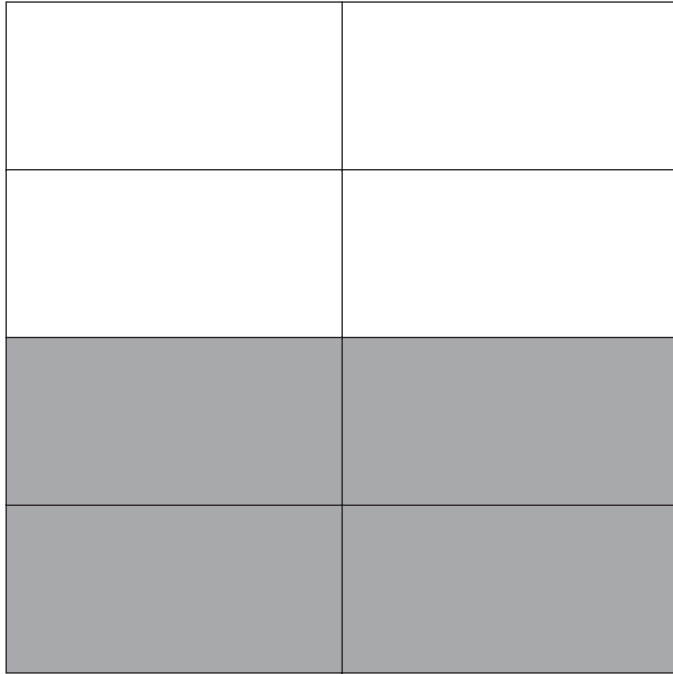




How can you solve  $\frac{1}{2} + \frac{5}{8}$ ?

How can you use what we already know to solve this next problem?

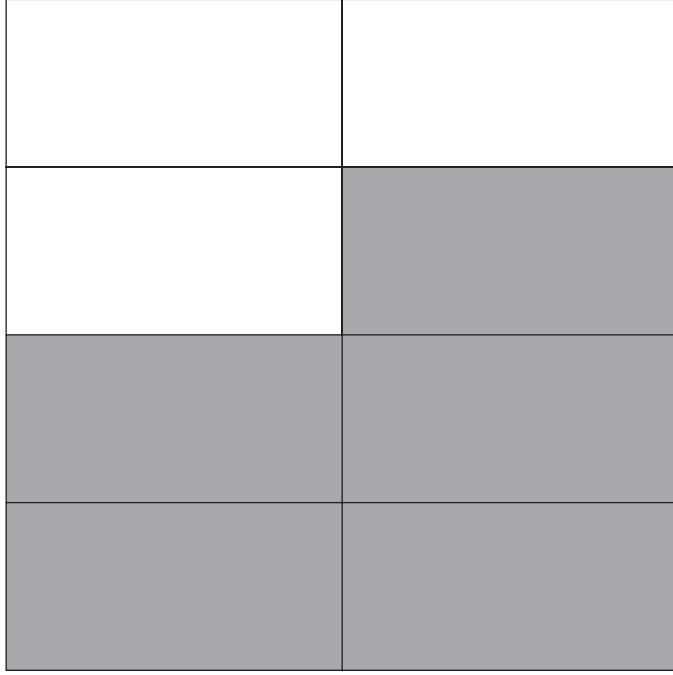
**F.**



$$1 \frac{1}{2}$$

+

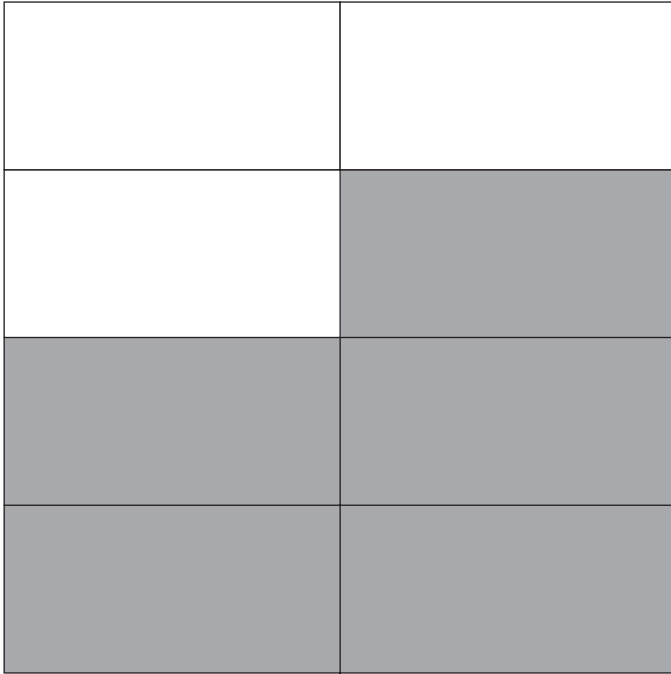
$$\frac{5}{8}$$





How can you solve  $\frac{5}{8} + \frac{5}{8}$ ?  
How can you use what we already know to solve this next problem?

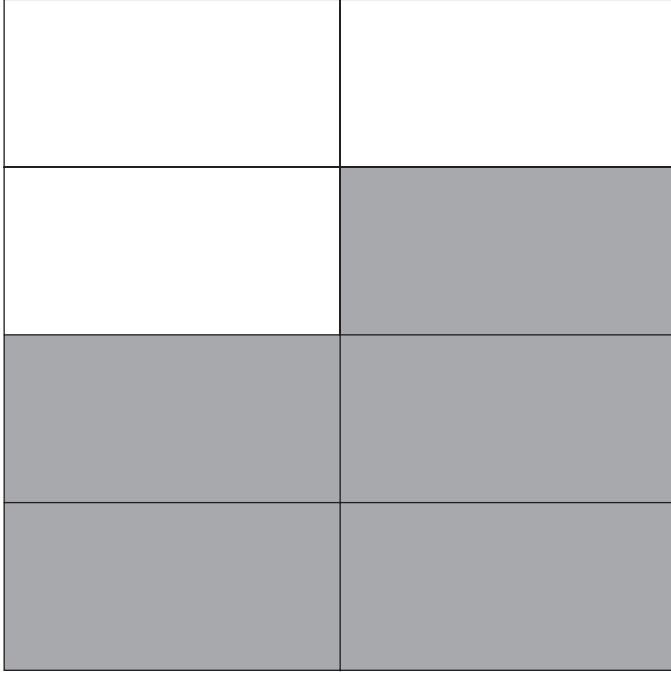
**F.**



$$\frac{5}{8}$$

+

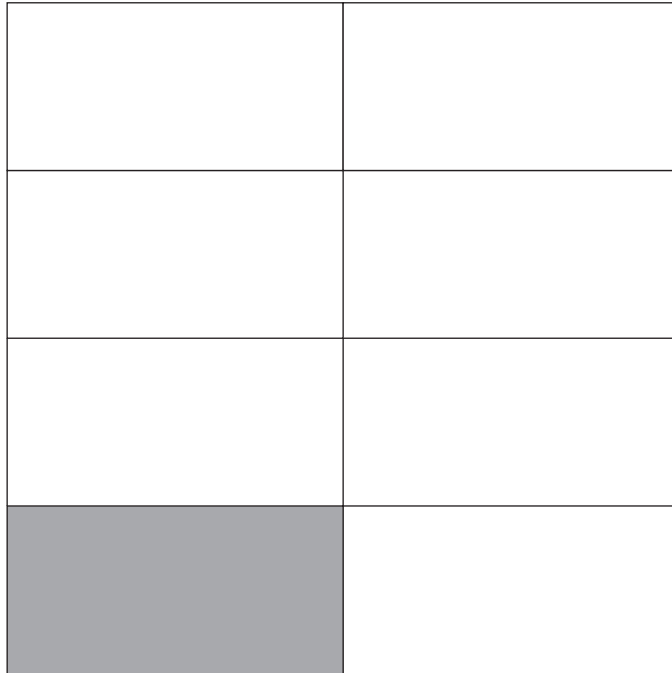
$$\frac{5}{8}$$





How can you solve  $\frac{1}{8} + \frac{7}{8}$ ?  
 How can you use what we already know to solve this next problem?

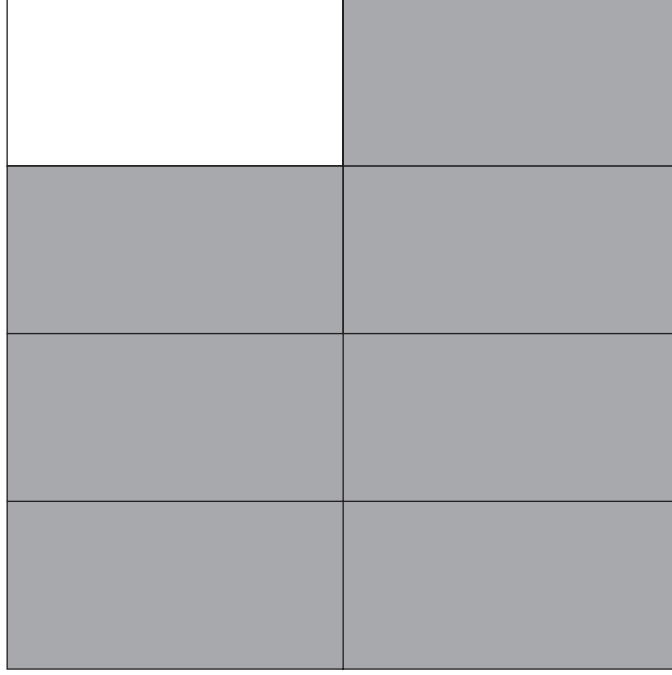
G.



$$\frac{1}{8}$$

+

$$\frac{7}{8}$$

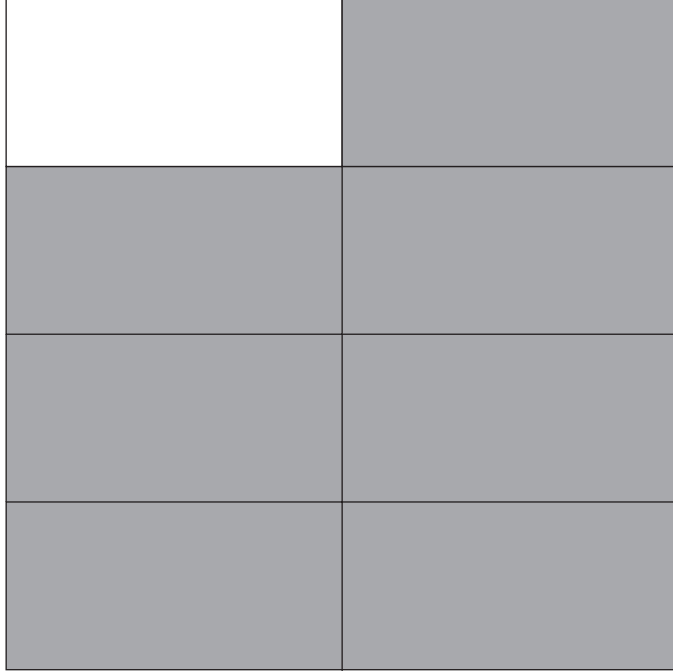




How can you solve  $\frac{7}{8} + \frac{3}{8}$ ?

How can you use what we already know to solve this next problem?

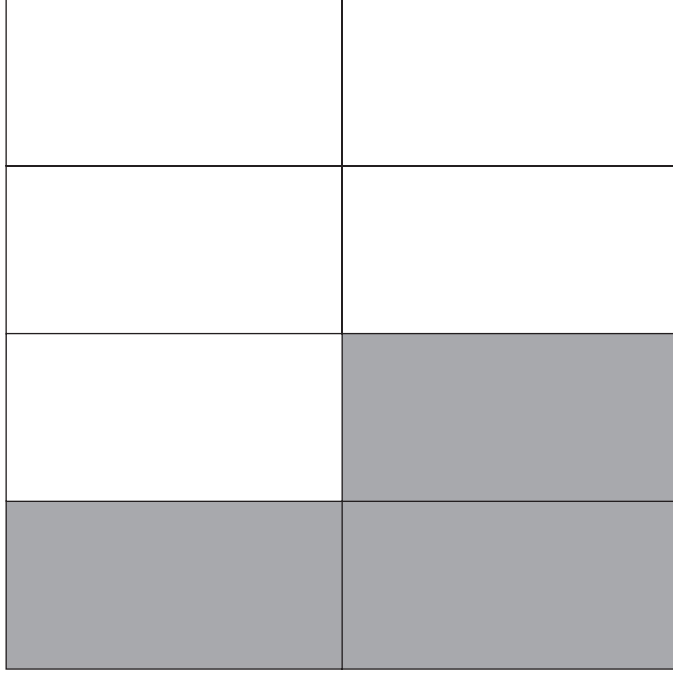
G.



$$\frac{7}{8}$$

+

$$\frac{3}{8}$$

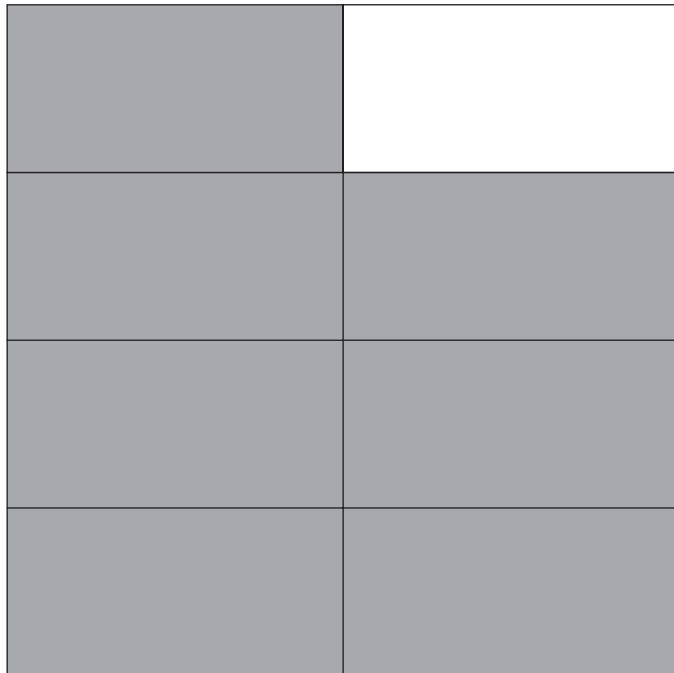




How can you solve \_\_\_ + \_\_\_?

How can you use what we already know to solve this next problem?

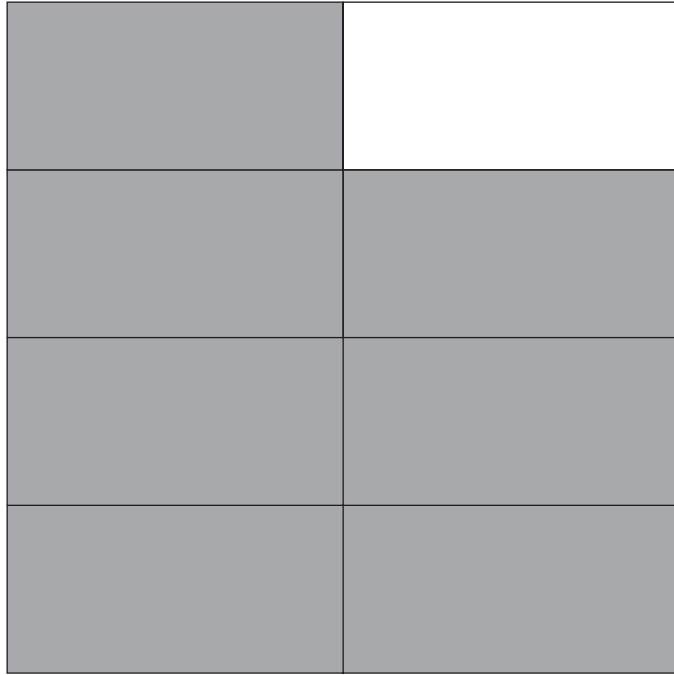
G.



$$\frac{7}{8}$$

+

$$\frac{7}{8}$$

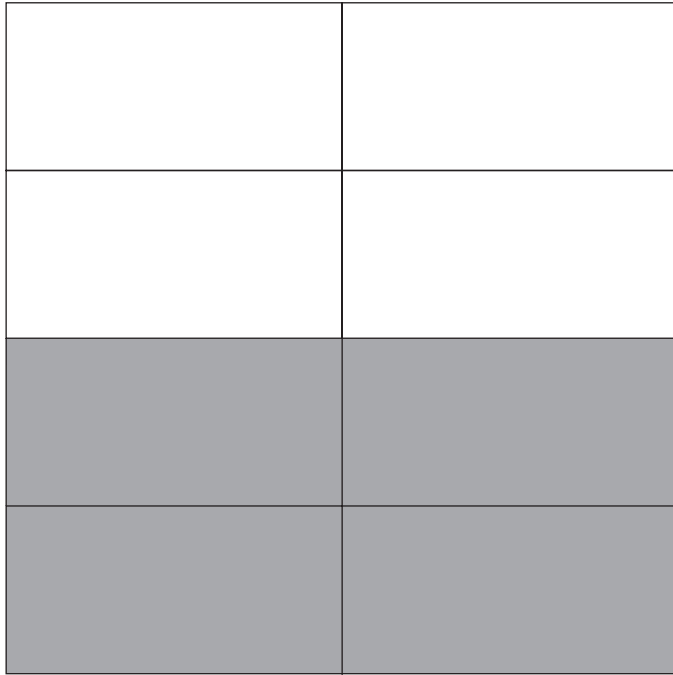




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

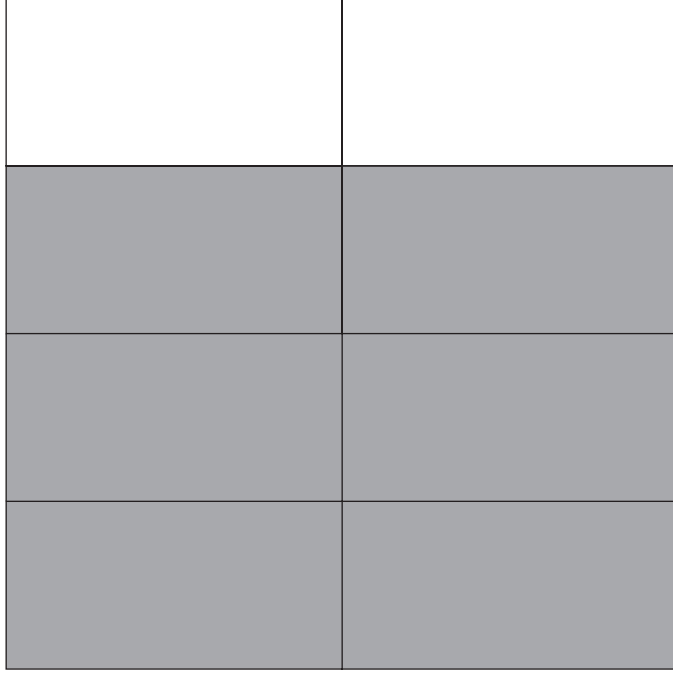
H.



$$\frac{4}{8}$$

+

$$\frac{6}{8}$$

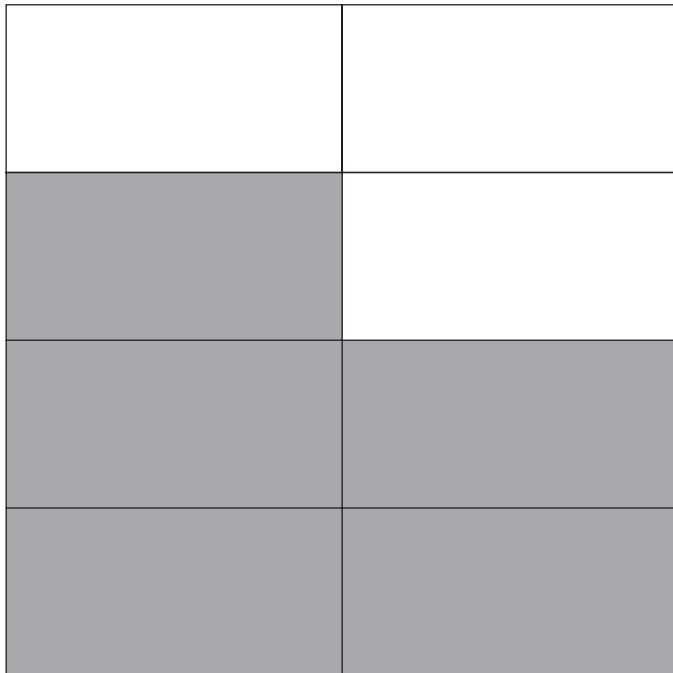




How can you solve \_\_\_ + \_\_\_?

How can you use what we already know to solve this next problem?

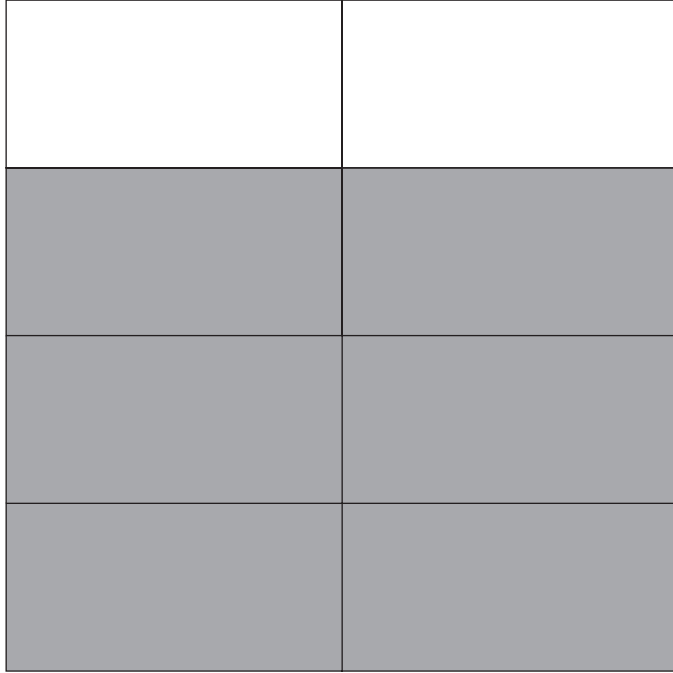
H.



$$\frac{5}{8}$$

+

$$\frac{6}{8}$$



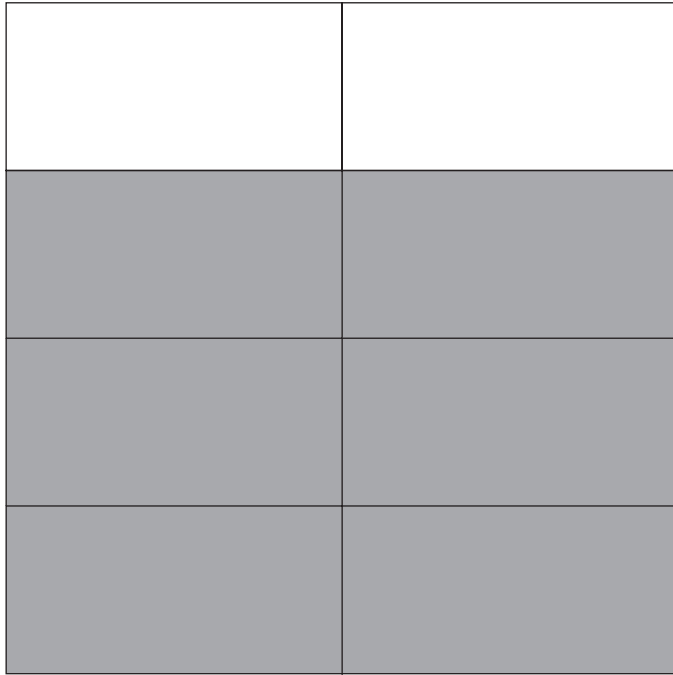




How can you solve  $\frac{3}{4} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

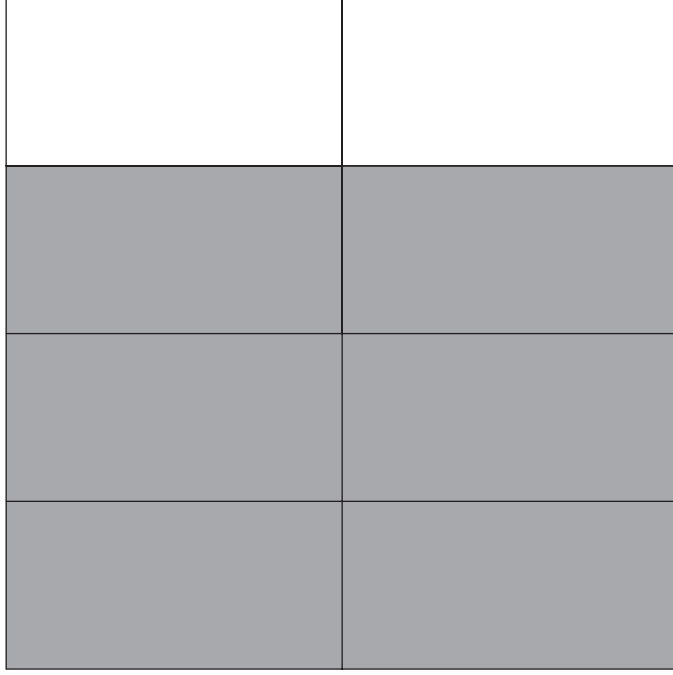
H.



$$\frac{6}{8}$$

+

$$\frac{6}{8}$$





How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

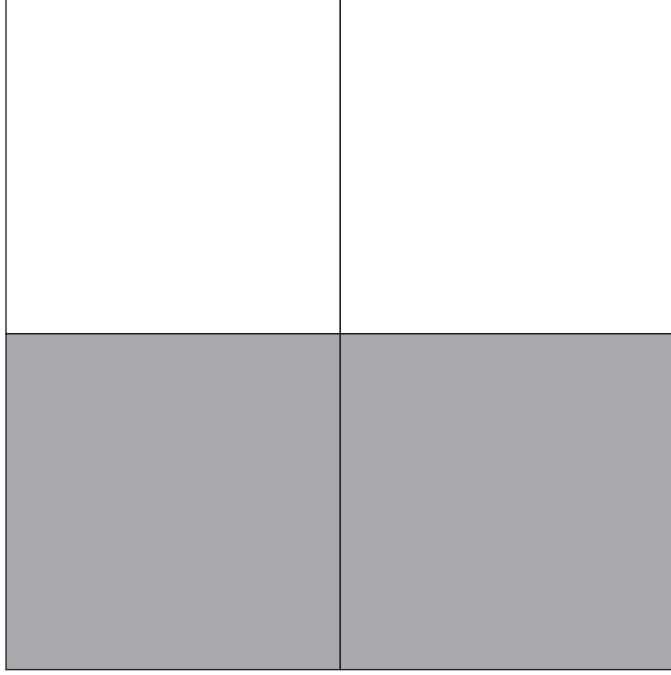
A.



$$1 \frac{1}{2}$$

+

$$\frac{2}{4}$$

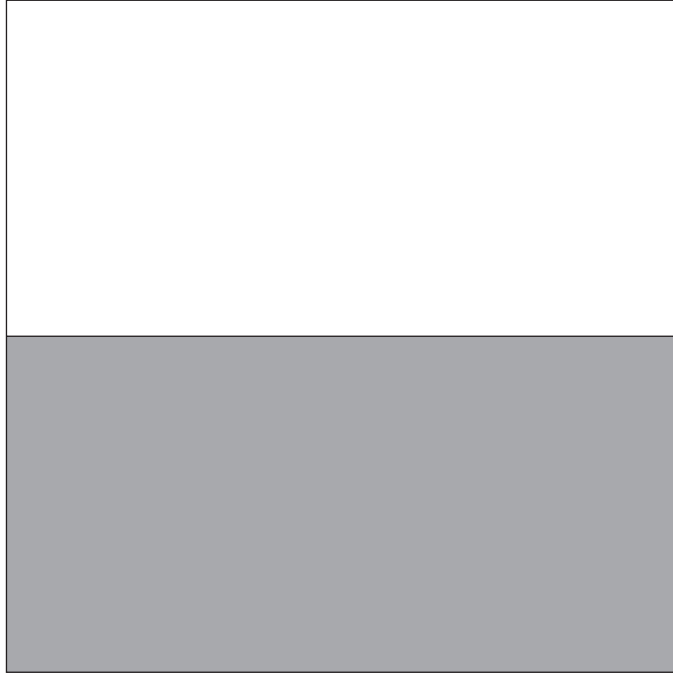




How can you solve  $\frac{1}{2} + \frac{1}{2}$ ?

How can you use what we already know to solve this next problem?

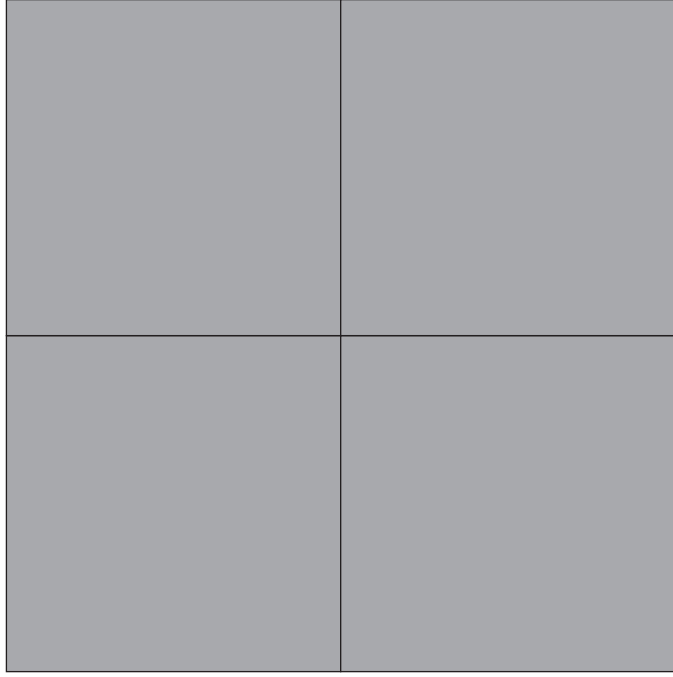
A.



$$1 \frac{1}{2}$$

+

$$\frac{4}{4}$$

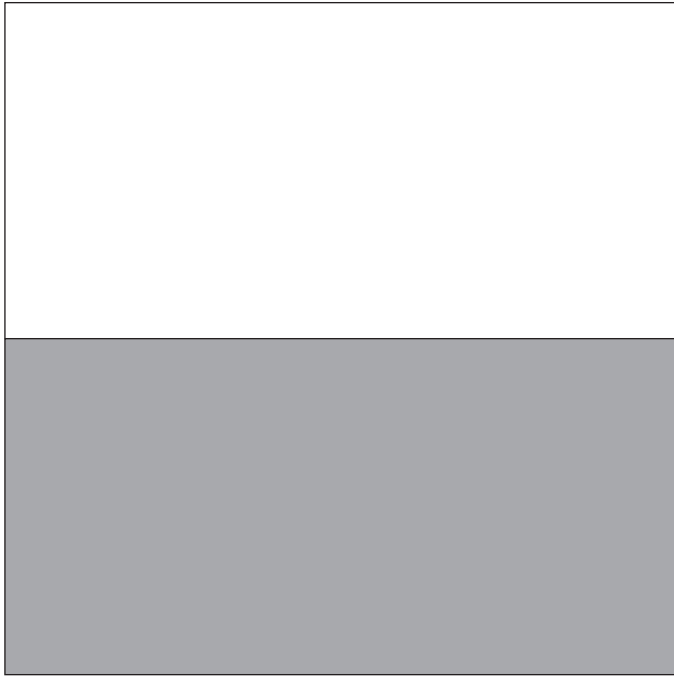




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

How can you use what we already know to solve this next problem?

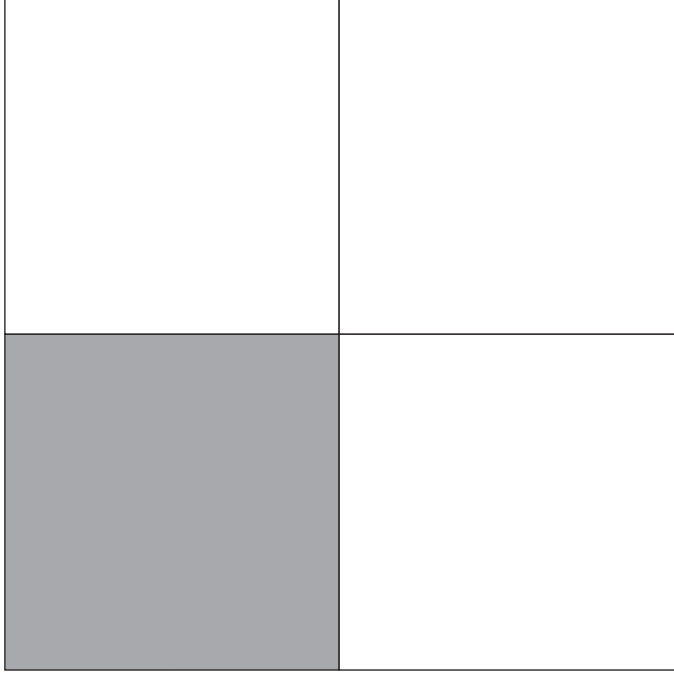
**B.**



$$\frac{1}{2}$$

+

$$\frac{1}{4}$$

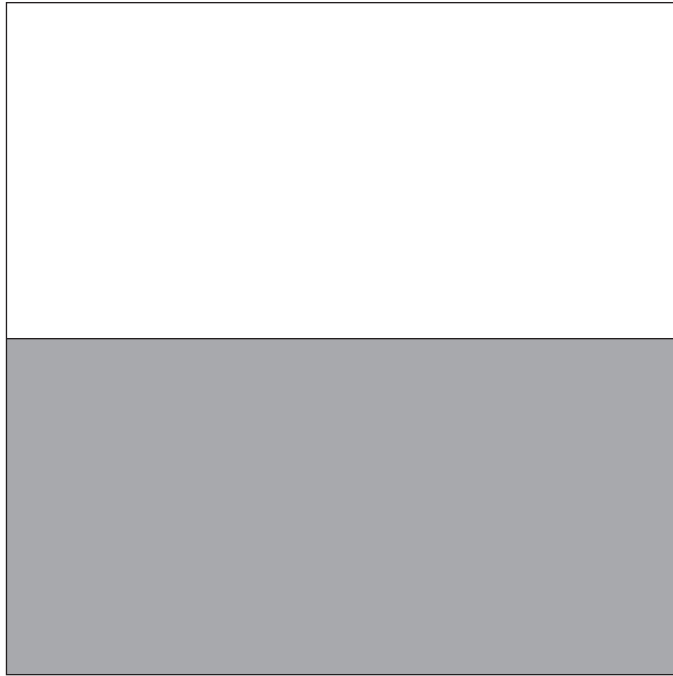




How can you solve  $\frac{1}{2} + \frac{3}{4}$ ?

How can you use what we already know to solve this next problem?

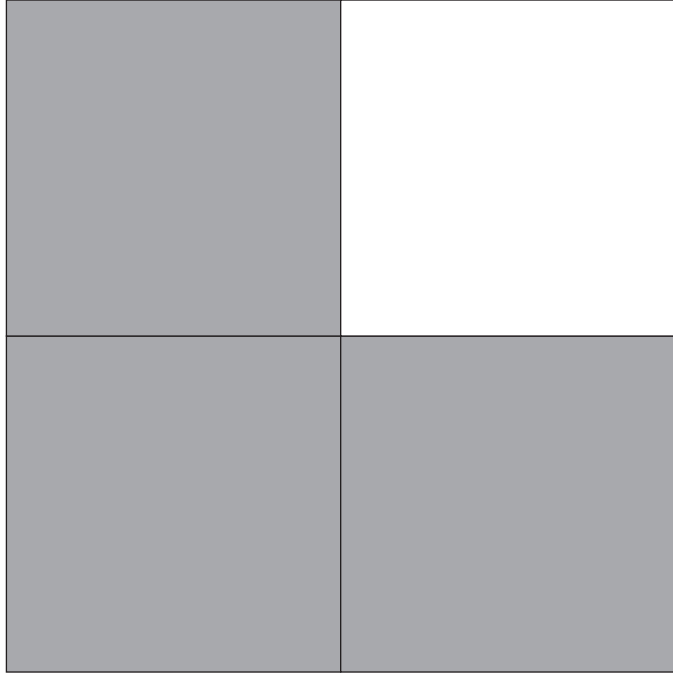
**B.**



$$1 \frac{1}{2}$$

+

$$\frac{3}{4}$$

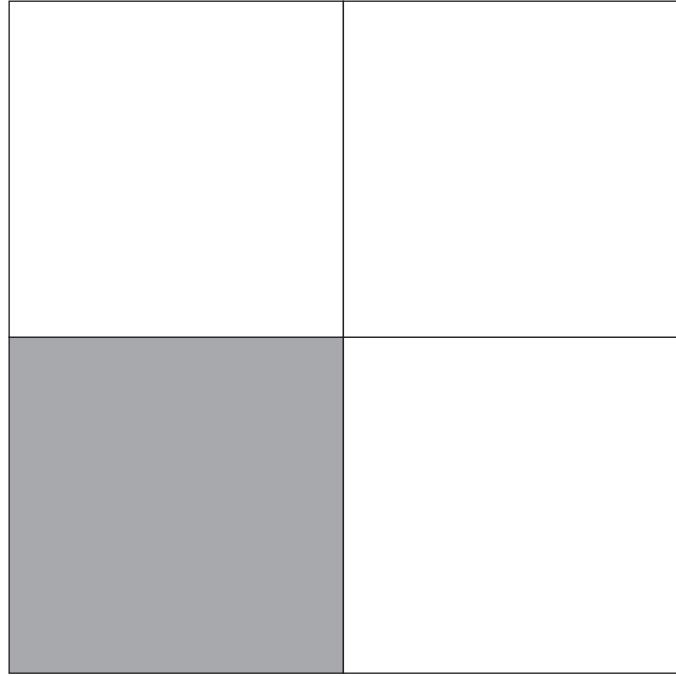




How can you solve  $\frac{1}{4} + \frac{3}{8}$ ?

How can you use what we already know to solve this next problem?

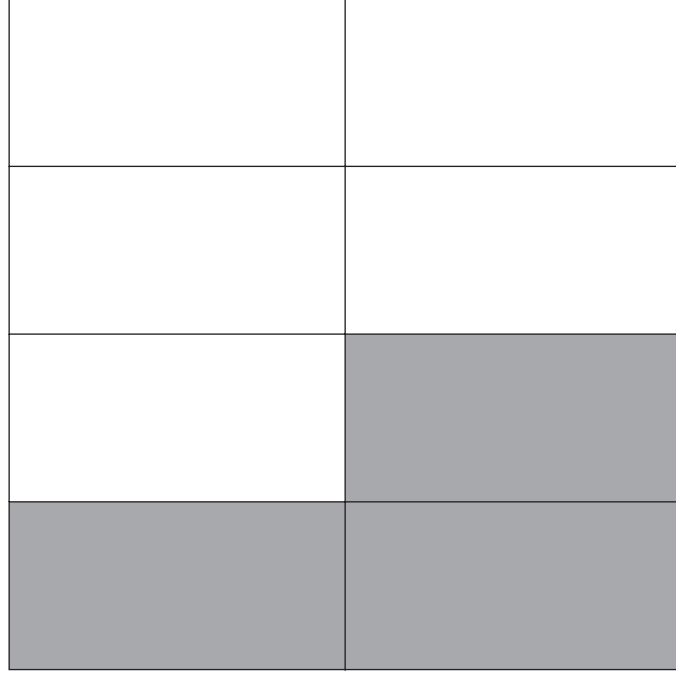
C.



$$1 \frac{1}{4}$$

+

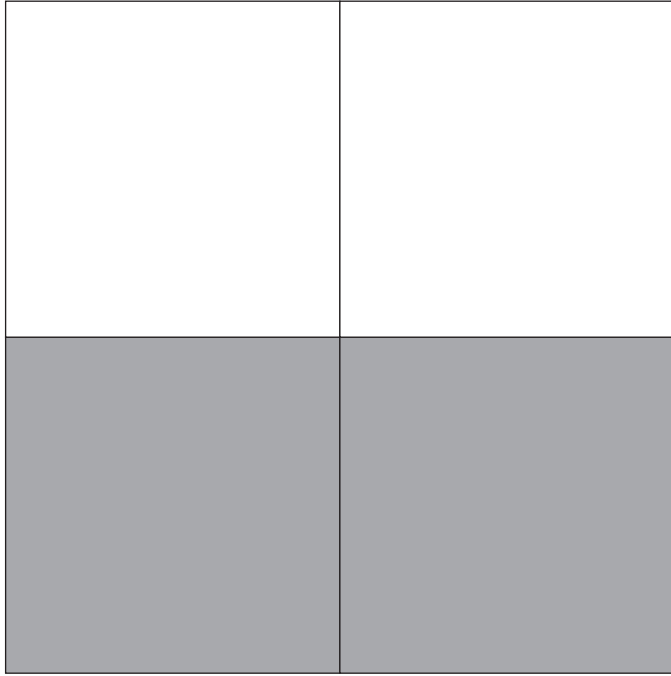
$$\frac{3}{8}$$





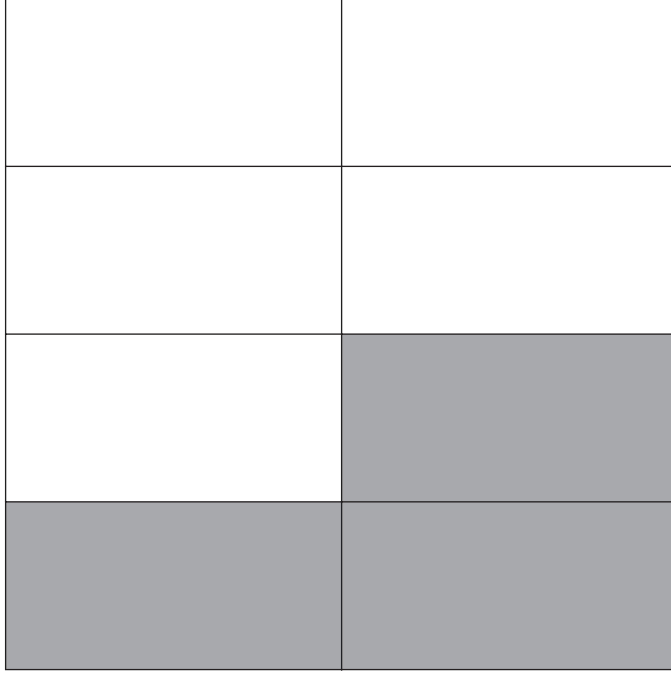
How can you solve  $\frac{2}{4} + \frac{3}{8}$ ?  
How can you use what we already know to solve this next problem?

C.



$$\frac{2}{4}$$

+



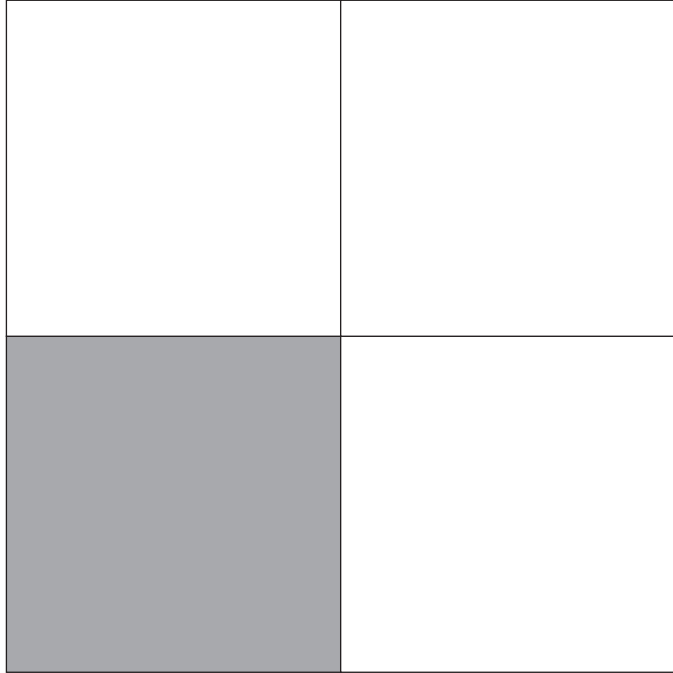
$$\frac{3}{8}$$



How can you solve  $\frac{1}{4} + \frac{5}{8}$ ?

How can you use what we already know to solve this next problem?

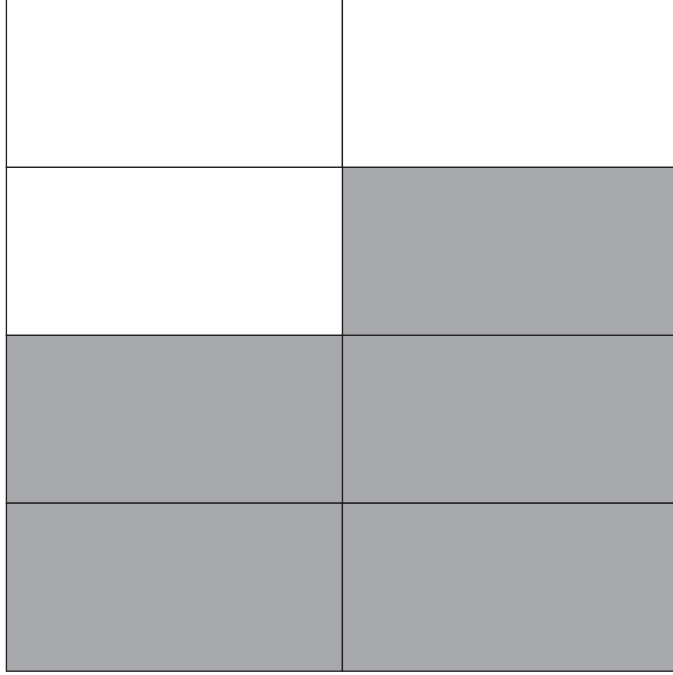
D.



$$\frac{1}{4}$$

+

$$\frac{5}{8}$$



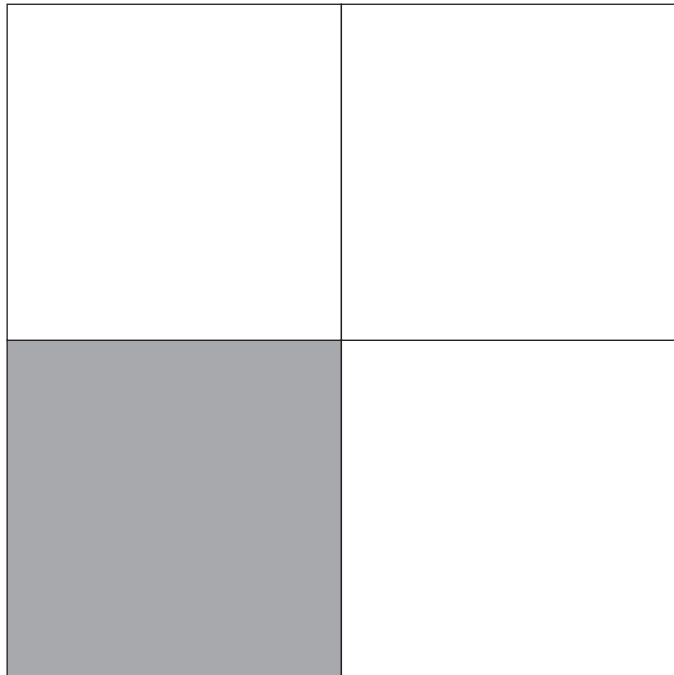




How can you solve  $\frac{1}{4} + \frac{7}{8}$ ?

How can you use what we already know to solve this next problem?

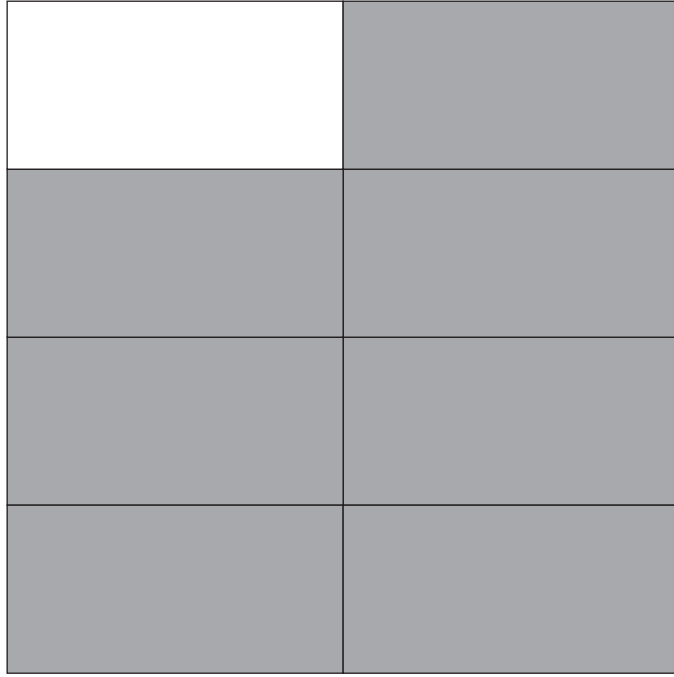
D.



$$1 \frac{1}{4}$$

+

$$\frac{7}{8}$$

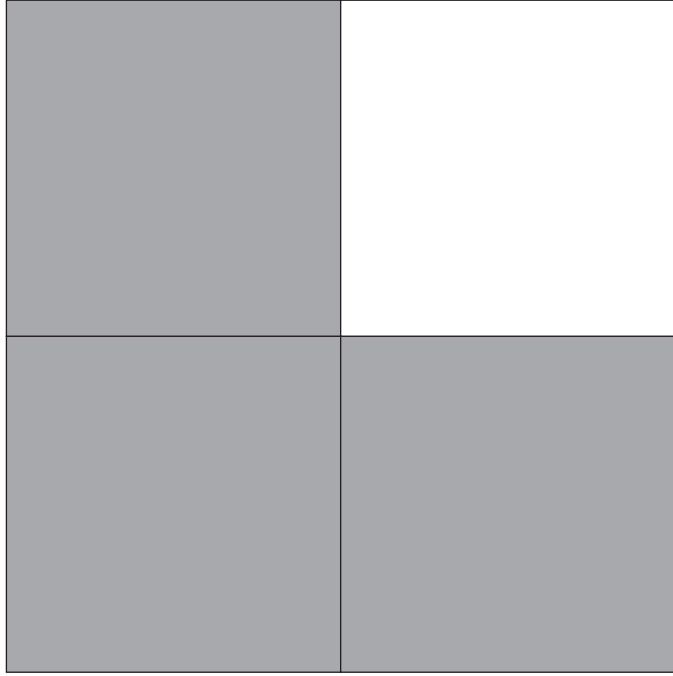




How can you solve  $\frac{3}{4} + \frac{5}{8}$ ?

How can you use what we already know to solve this next problem?

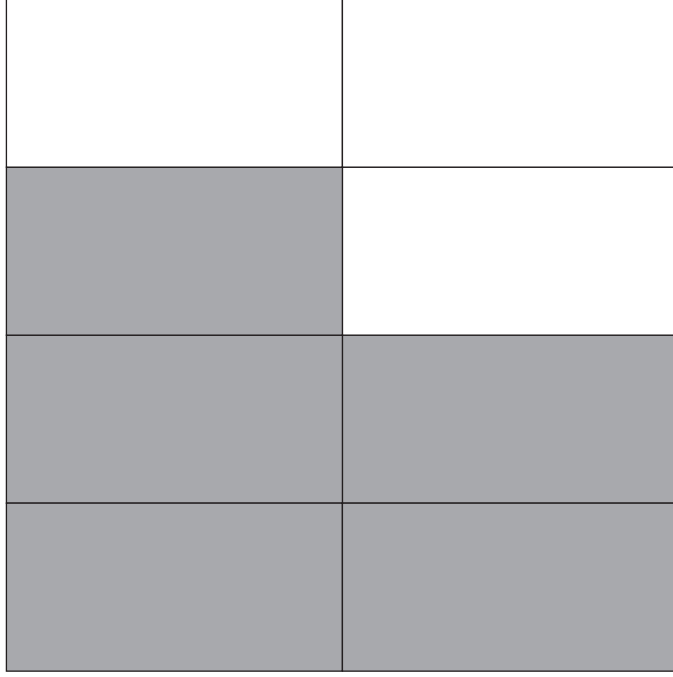
**E.**



$$\frac{3}{4}$$

+

$$\frac{5}{8}$$

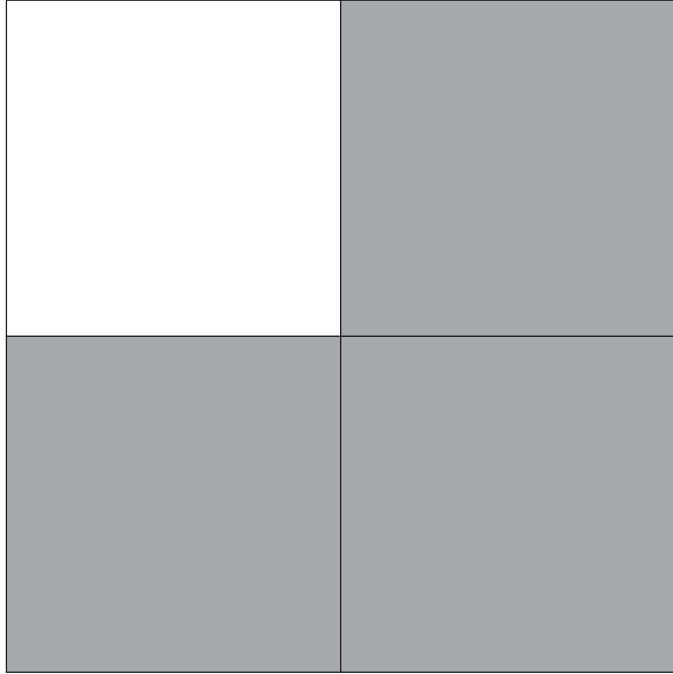




How can you solve  $\frac{3}{4} + \frac{7}{8}$ ?

How can you use what we already know to solve this next problem?

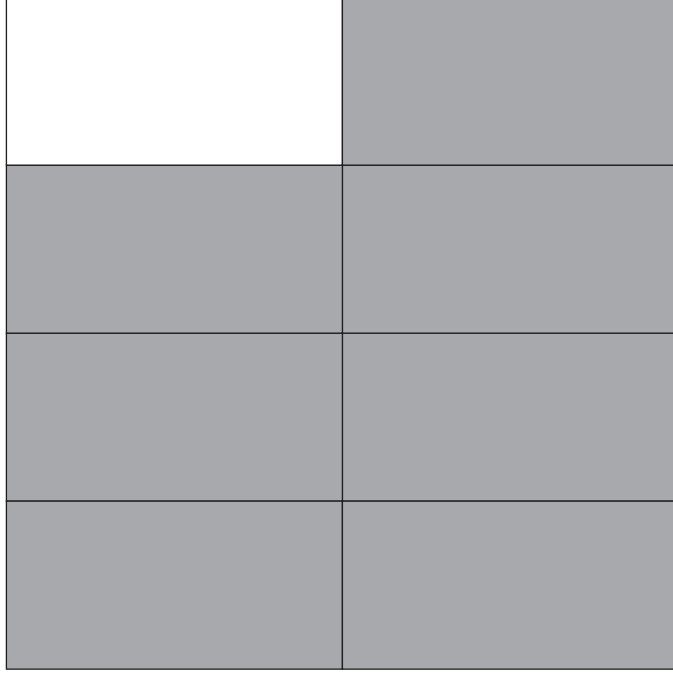
**E.**



$$\frac{3}{4}$$

+

$$\frac{7}{8}$$

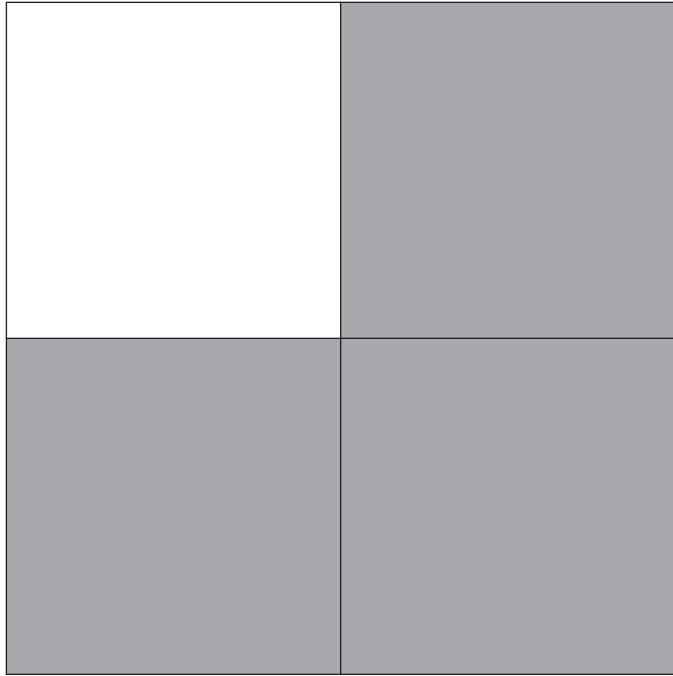




How can you solve  $\frac{3}{4} + \frac{1}{8}$ ?

How can you use what we already know to solve this next problem?

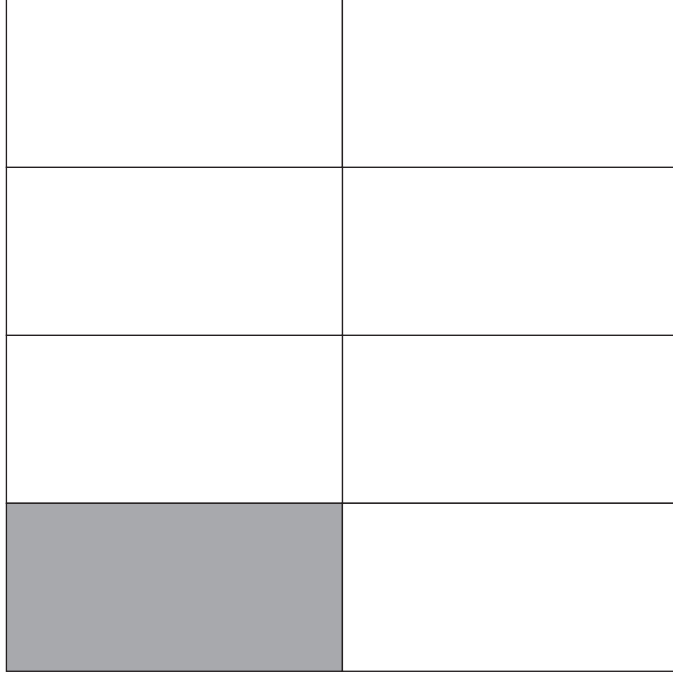
**F.**



$$\frac{3}{4}$$

+

$$\frac{1}{8}$$

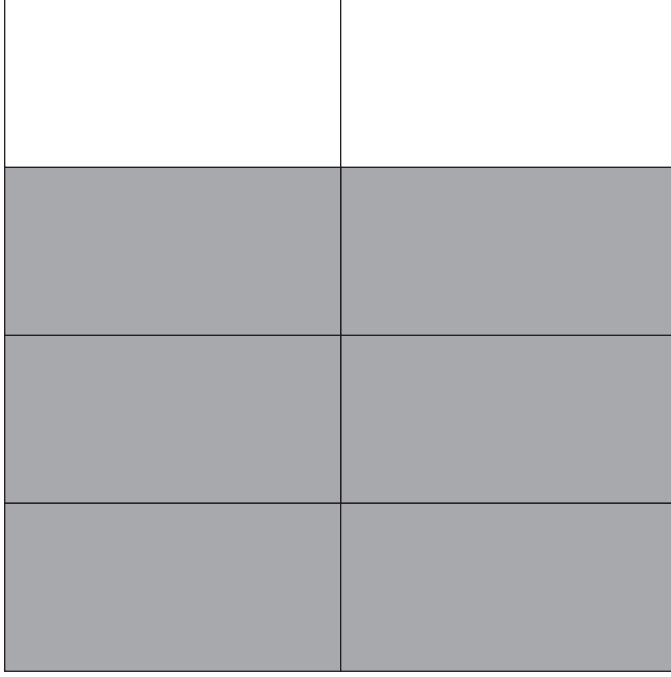
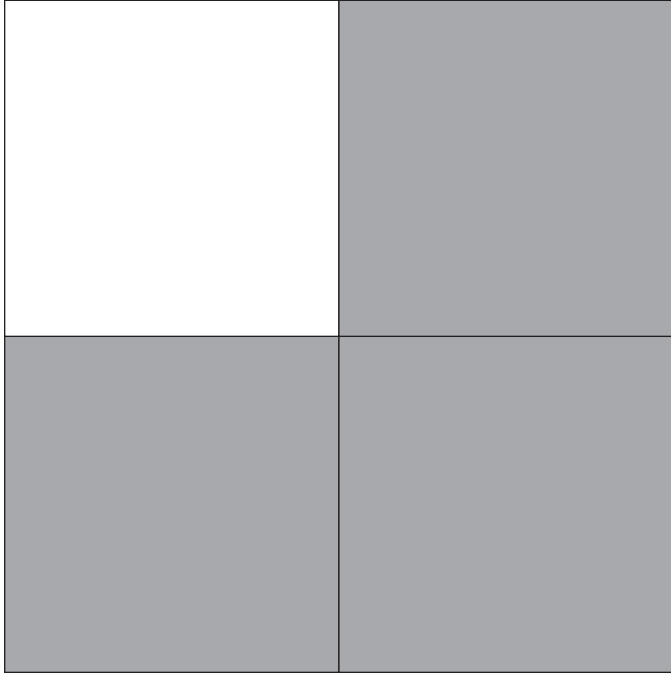




How can you solve  $\frac{3}{4} + \frac{6}{8}$ ?

How can you use what we already know to solve this next problem?

**F.**



$\frac{3}{4}$

+

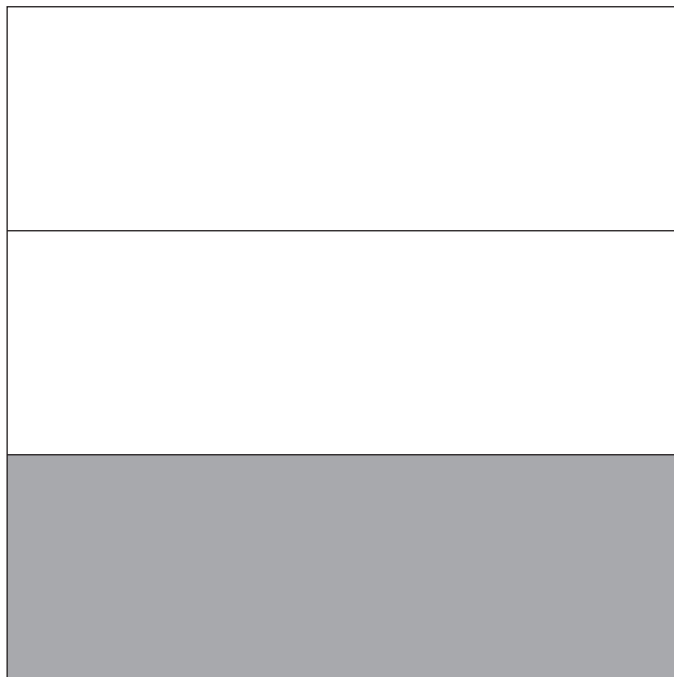
$\frac{6}{8}$



How can you solve  $\frac{1}{3} + \frac{1}{6}$ ?

How can you use what we already know to solve this next problem?

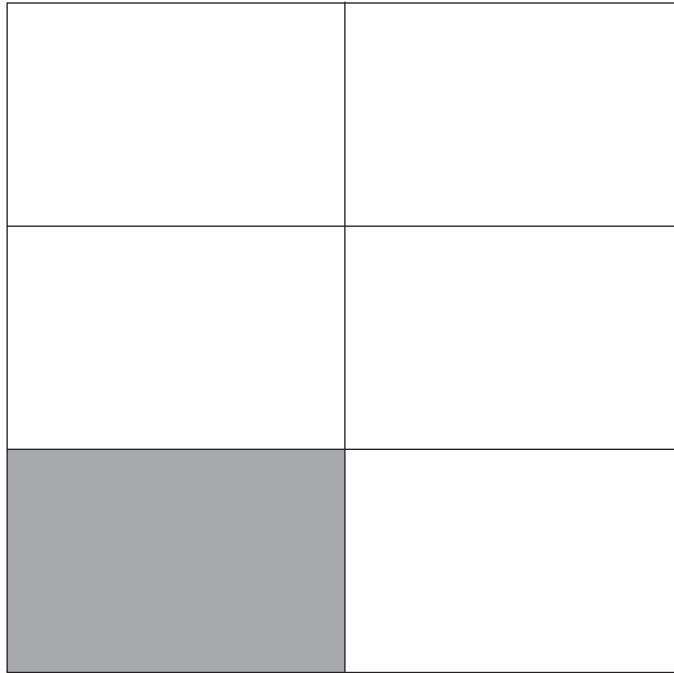
G.



$$\frac{1}{3}$$

+

$$\frac{1}{6}$$



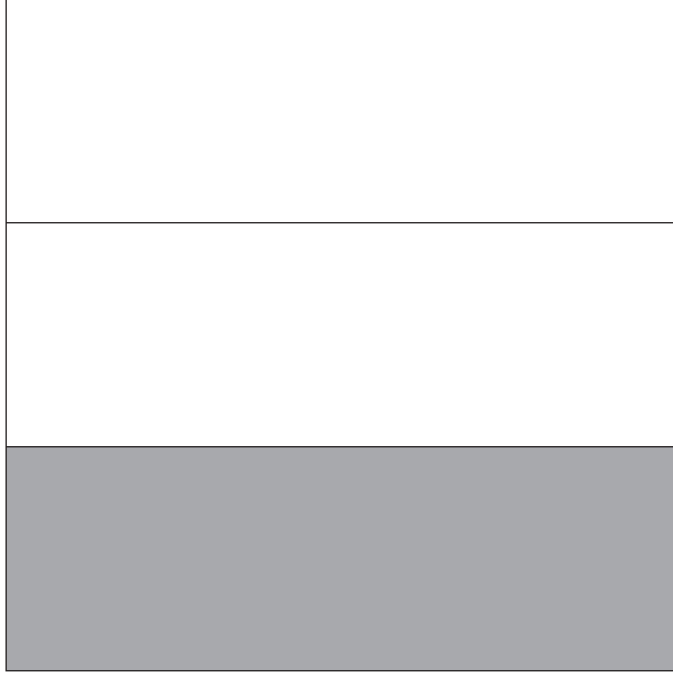




How can you solve \_\_\_ + \_\_\_?

How can you use what we already know to solve this next problem?

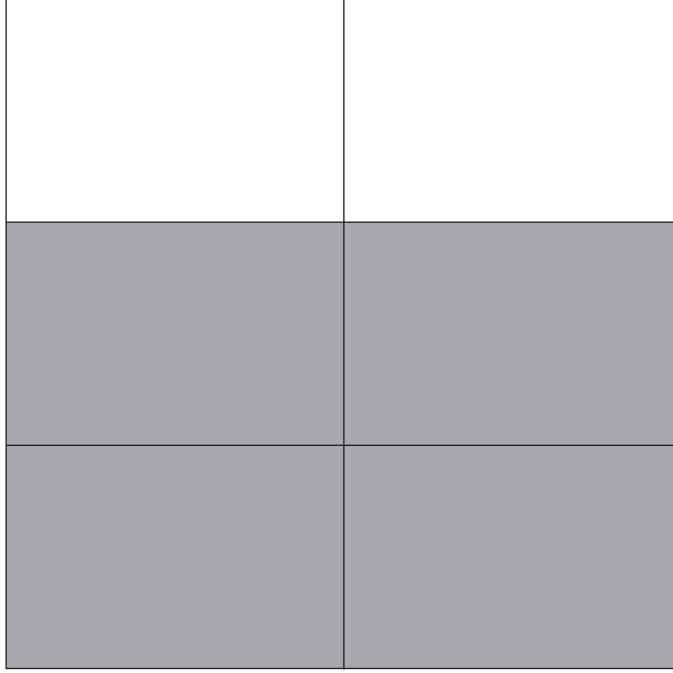
H.



$$1 \frac{1}{3}$$

+

$$4 \frac{4}{6}$$



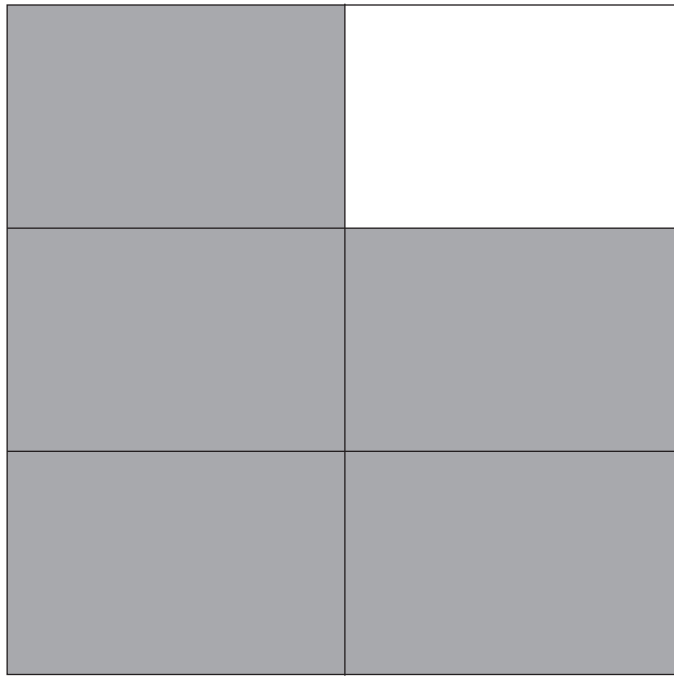
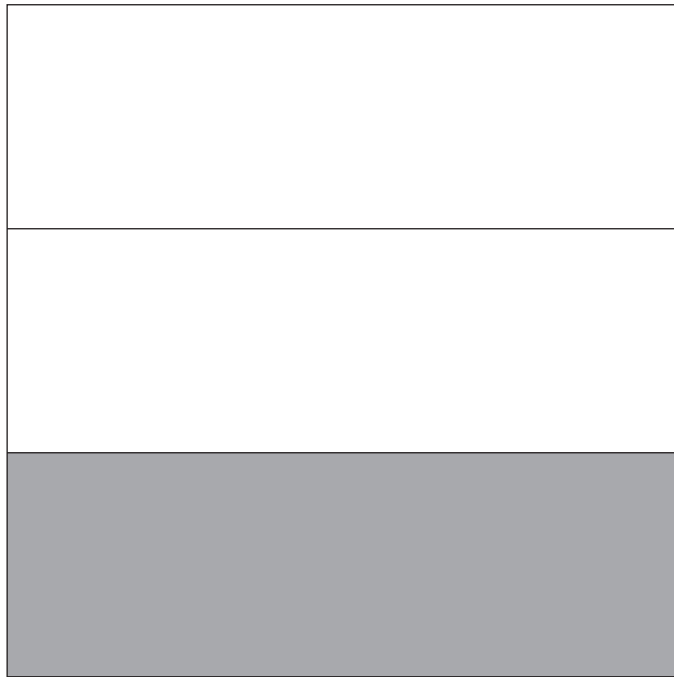




How can you solve  $\frac{1}{3} + \frac{5}{6}$ ?

How can you use what we already know to solve this next problem?

H.



$$\frac{1}{3}$$

+

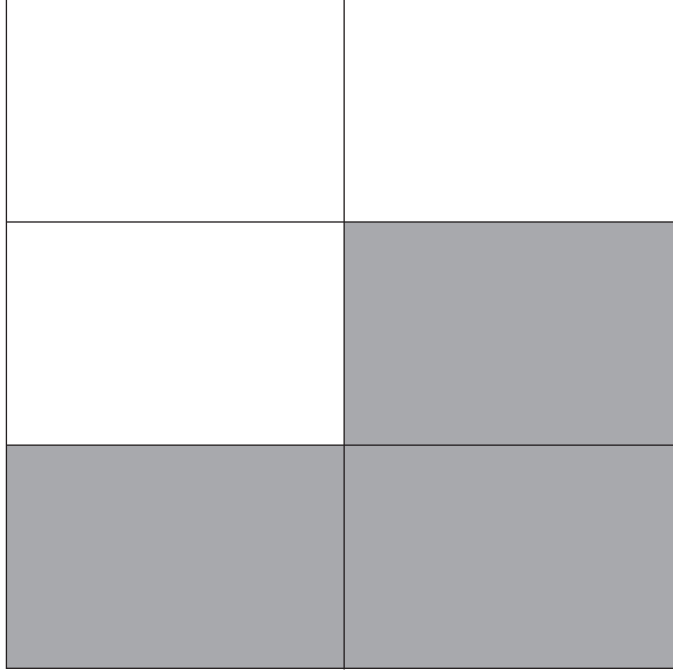
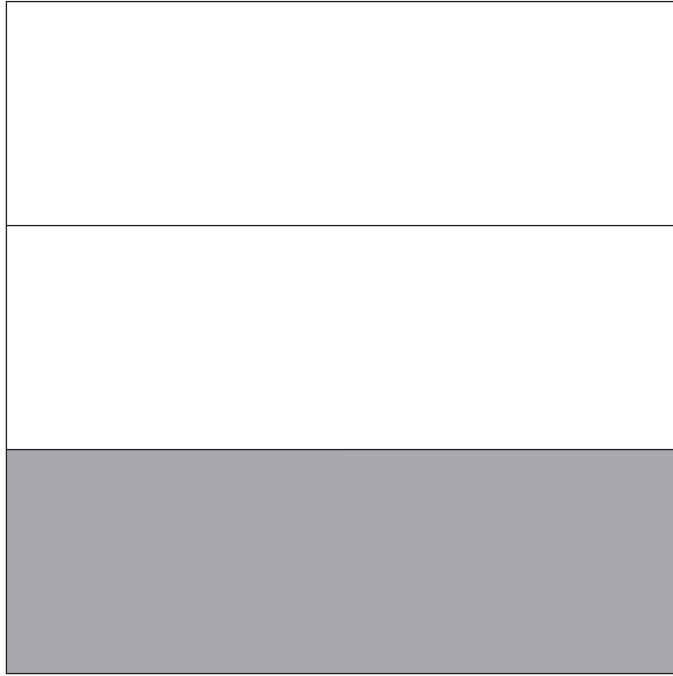
$$\frac{5}{6}$$



How can you solve  $\frac{1}{3} + \frac{2}{6}$ ?

How can you use what we already know to solve this next problem?

1.



$$\frac{1}{3}$$

+

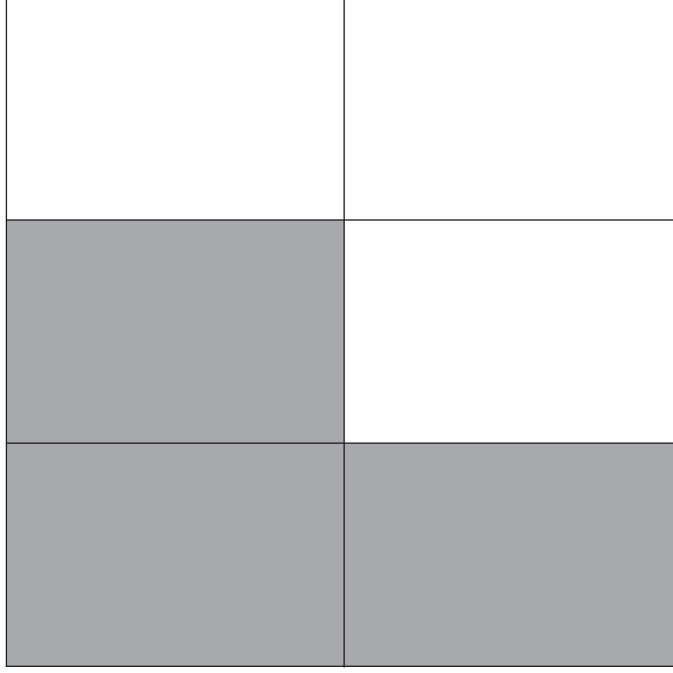
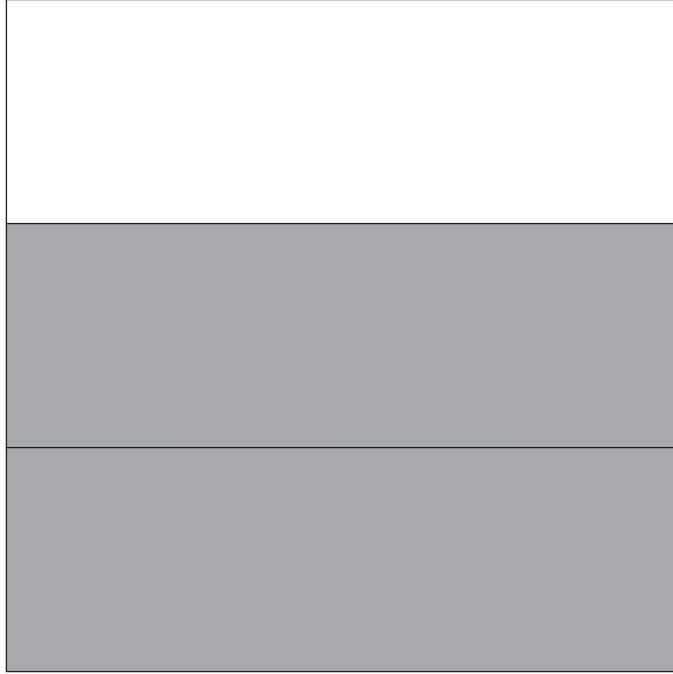
$$\frac{2}{6}$$



How can you solve  $\frac{2}{3} + \frac{3}{6}$ ?

How can you use what we already know to solve this next problem?

1.



$$\frac{2}{3}$$

+

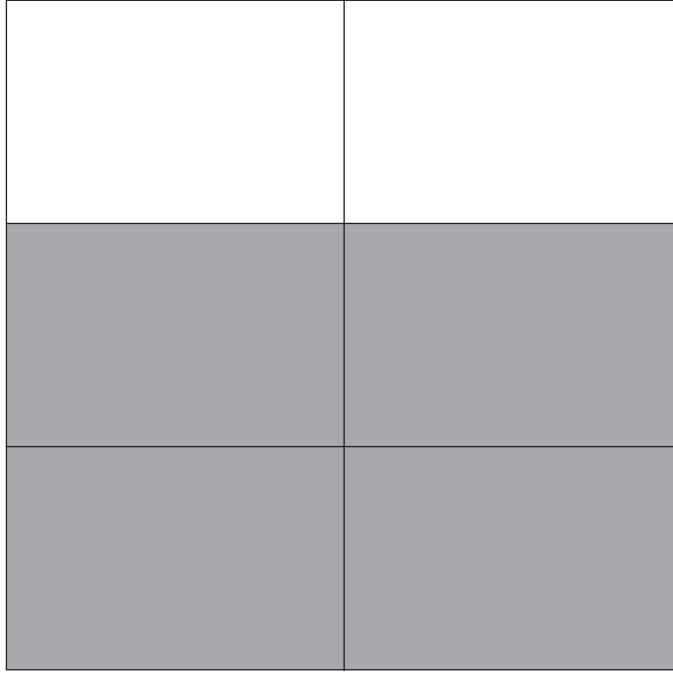
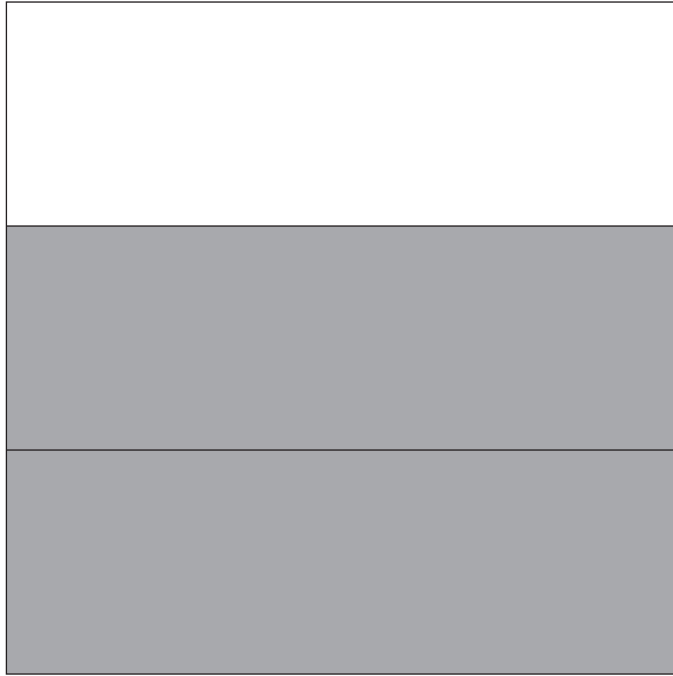
$$\frac{3}{6}$$



How can you solve  $\frac{2}{3} + \frac{4}{6}$ ?

How can you use what we already know to solve this next problem?

J.



$$\frac{2}{3}$$

+

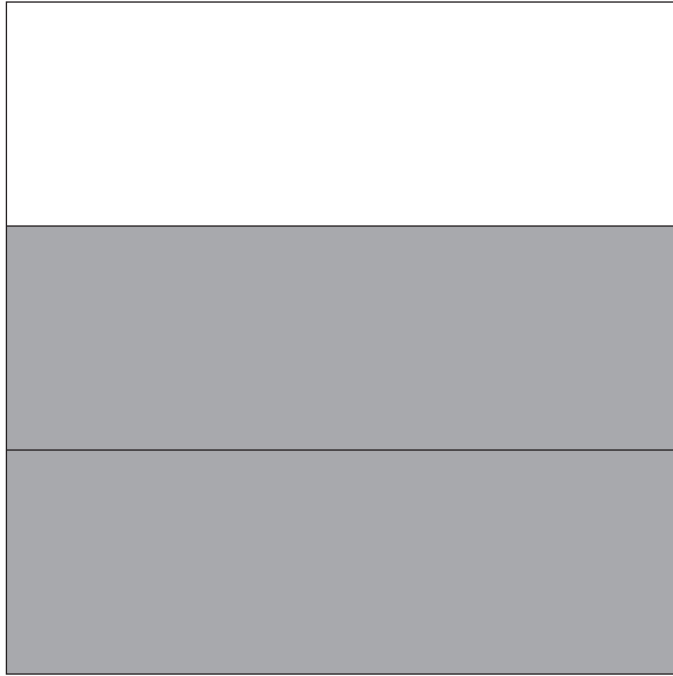
$$\frac{4}{6}$$



How can you solve \_\_\_ + \_\_\_?

How can you use what we already know to solve this next problem?

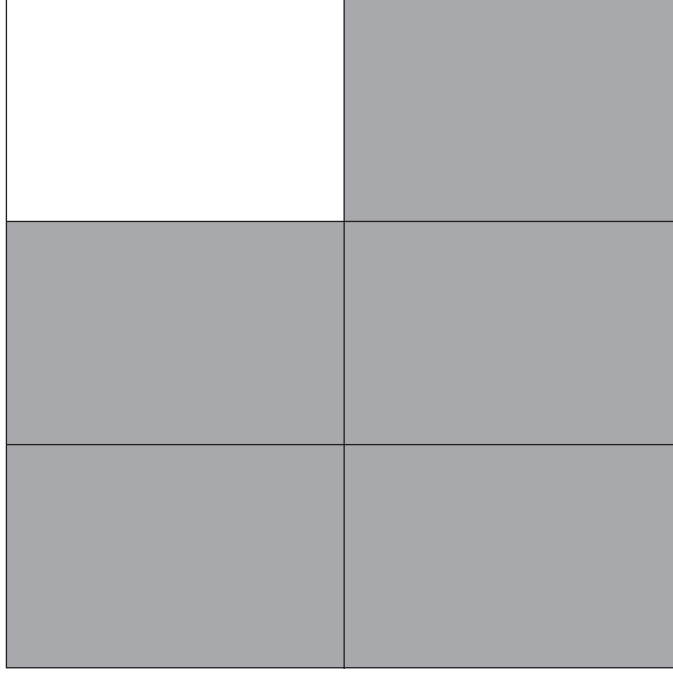
J.



$$2 \frac{2}{3}$$

+

$$\frac{5}{6}$$

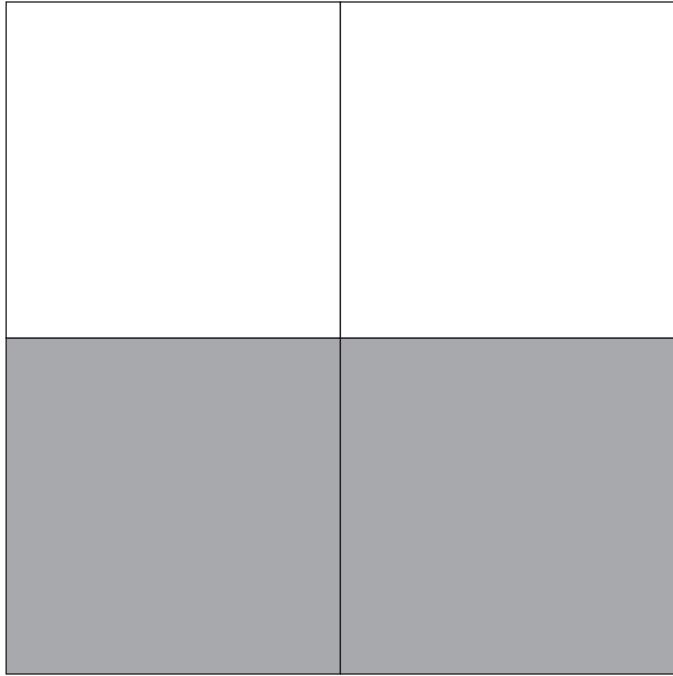




How can you solve  $\frac{1}{2} + \frac{1}{4}$ ?

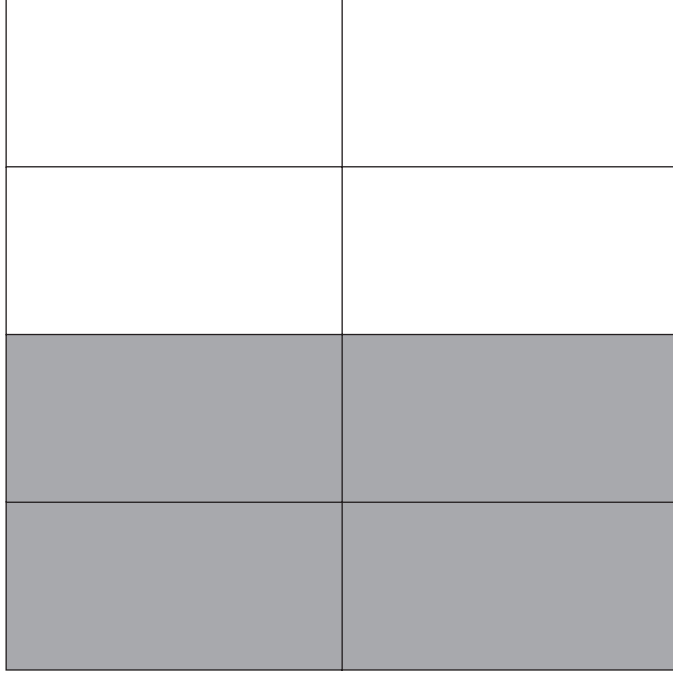
How can you use what we already know to solve this next problem?

K.



$$1 \frac{1}{2}$$

+



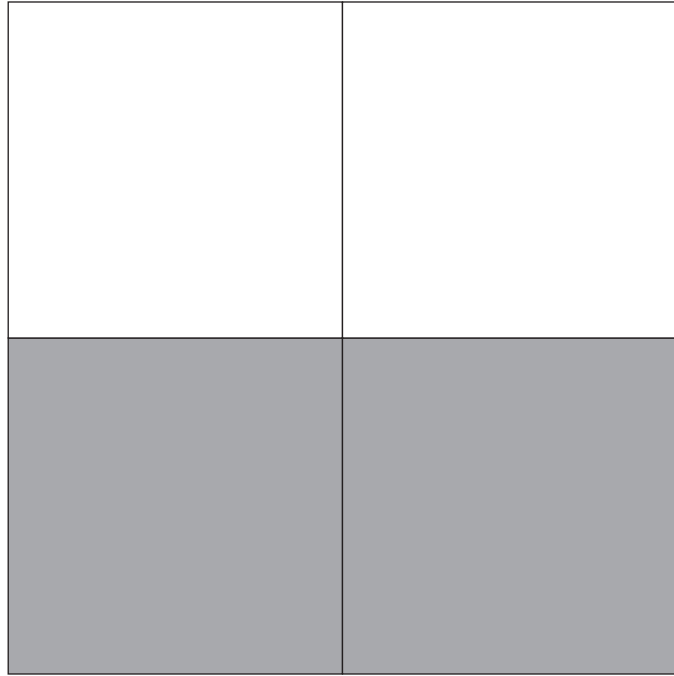
$$4 \frac{4}{8}$$



How can you solve  $\frac{1}{2} + \frac{5}{8}$ ?

How can you use what we already know to solve this next problem?

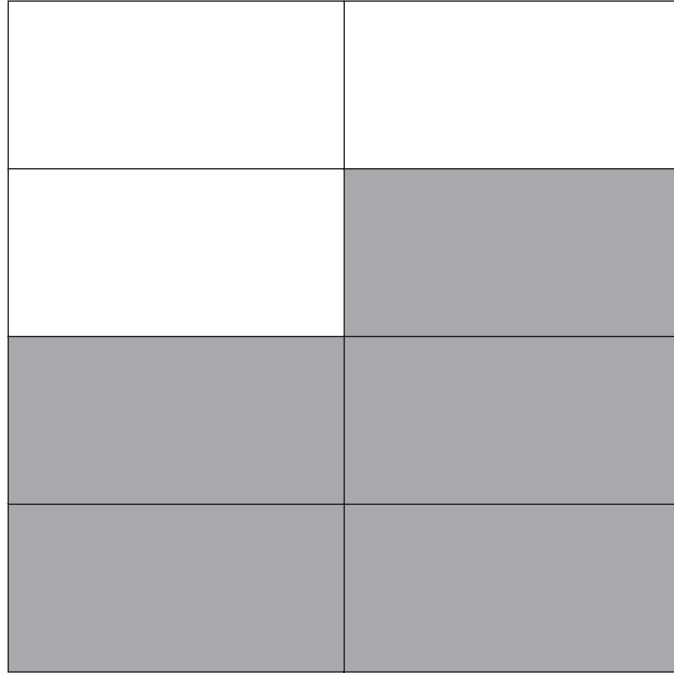
K.



$$1 \frac{1}{2}$$

+

$$\frac{5}{8}$$

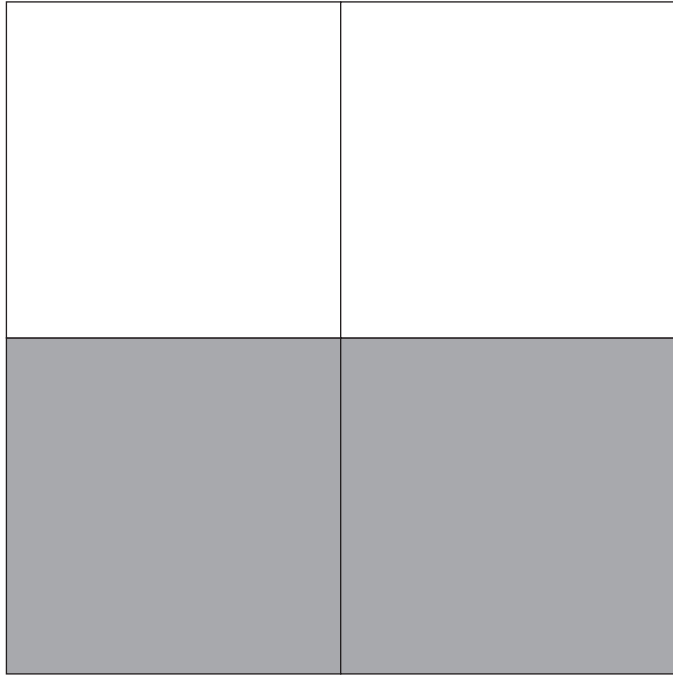




How can you solve  $\frac{1}{2} + \frac{1}{8}$ ?

How can you use what we already know to solve this next problem?

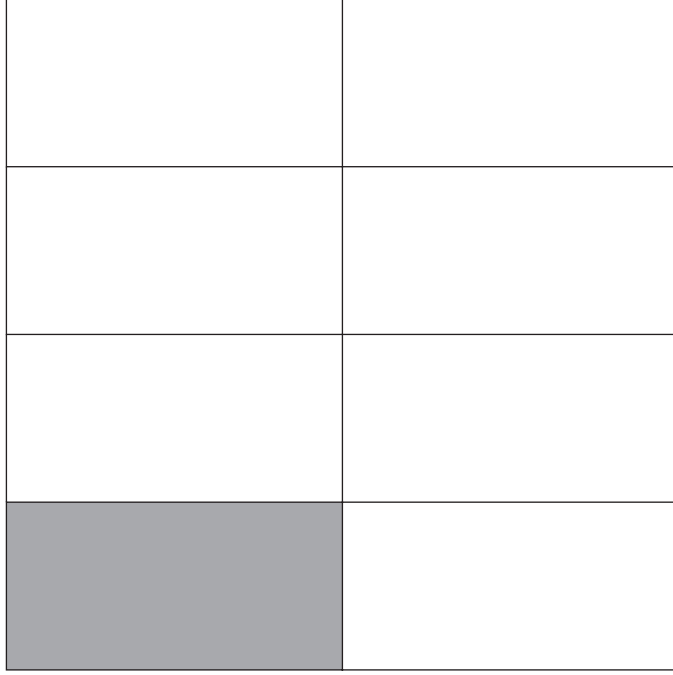
L.



$$\frac{1}{2}$$

+

$$\frac{1}{8}$$



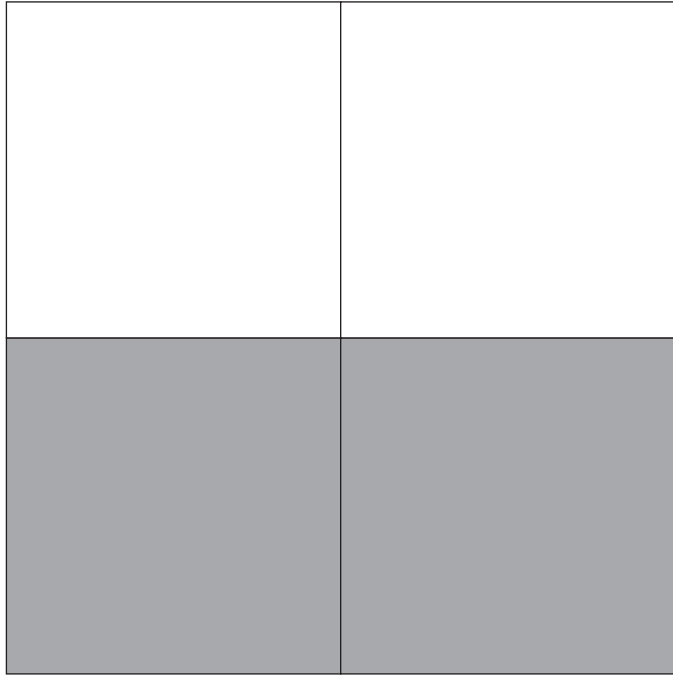




How can you solve  $\frac{1}{2} + \frac{3}{8}$ ?

How can you use what we already know to solve this next problem?

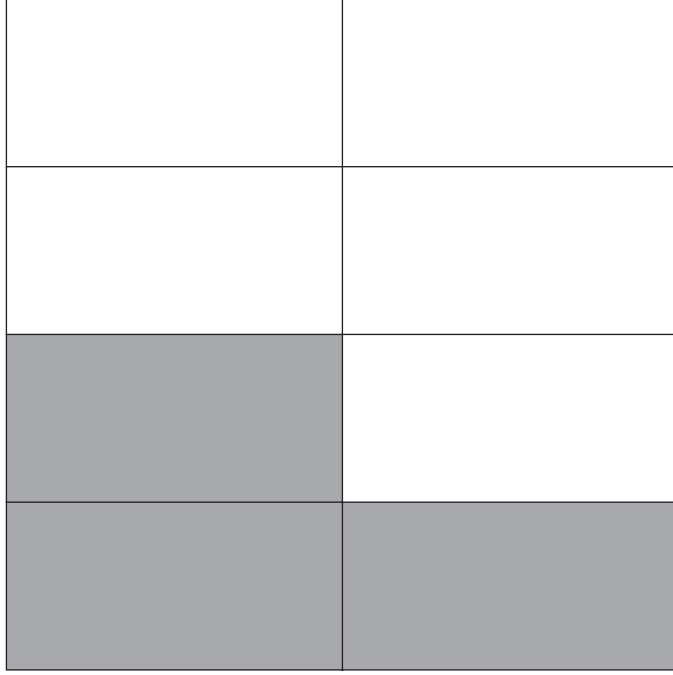
L.



$$1 \frac{1}{2}$$

+

$$\frac{3}{8}$$





What is  $\frac{7}{8} - \frac{2}{8}$ ? How do you know?  
How can you use what we already know to solve the next problem?

A.


$$\frac{7}{8} - \frac{2}{8}$$

$$\frac{7}{8} - \frac{3}{8}$$

$$\frac{7}{8} - \frac{5}{8}$$

What is  $\frac{5}{8} - \frac{1}{8}$ ? How do you know?  
How can you use what we already know to solve the next problem?

B.


$$\frac{5}{8} - \frac{1}{8}$$

$$\frac{5}{8} - \frac{1}{2}$$

$$\frac{5}{8} - \frac{1}{4}$$



What is  $\frac{1}{2} - \frac{1}{8}$ ? How do you know?  
How can you use what we already know to solve the next problem?

C.


$$\frac{1}{2} - \frac{1}{8}$$

$$\frac{1}{2} - \frac{3}{8}$$

$$\frac{1}{2} - \frac{1}{4}$$



What is  $\frac{3}{4} - \frac{1}{4}$ ? How do you know?  
How can you use what we already know to solve the next problem?

A.


$$\frac{3}{4} - \frac{1}{4}$$

$$\frac{3}{4} - \frac{1}{2}$$

$$\frac{3}{4} - \frac{3}{8}$$



What is  $\frac{5}{6} - \frac{1}{6}$ ? How do you know?  
How can you use what we already know to solve the next problem?

**B.**


$$\frac{5}{6} - \frac{1}{6}$$

$$\frac{5}{6} - \frac{3}{6}$$

$$\frac{5}{6} - \frac{4}{6}$$



What is  $\frac{5}{6} - \frac{1}{3}$ ? How do you know?  
How can you use what we already know to solve the next problem?

C.


$$\frac{5}{6} - \frac{1}{3}$$

$$\frac{5}{6} - \frac{2}{3}$$

$$\frac{5}{6} - \frac{1}{2}$$



What is  $\frac{11}{12} - \frac{5}{12}$ ? How do you know?  
How can you use what we already know to solve the next problem?

A.


$$\frac{11}{12} - \frac{5}{12}$$

$$\frac{11}{12} - \frac{1}{2}$$

$$\frac{11}{12} - \frac{1}{4}$$





What is  $\frac{3}{4} - \frac{1}{12}$ ? How do you know?  
How can you use what we already know to solve the next problem?

B.


$$\frac{3}{4} - \frac{1}{12}$$

$$\frac{3}{4} - \frac{1}{2}$$

$$\frac{3}{4} - \frac{1}{4}$$



What is  $\frac{1}{2} - \frac{1}{12}$ ? How do you know?  
How can you use what we already know to solve the next problem?

A.


$$\frac{1}{2} - \frac{1}{12}$$

$$\frac{1}{2} - \frac{1}{6}$$

$$\frac{1}{2} - \frac{1}{3}$$



What is  $\frac{2}{3} - \frac{1}{2}$ ? How do you know?  
How can you use what we already know to solve the next problem?

B.


$$\frac{2}{3} - \frac{1}{2}$$

$$\frac{2}{3} - \frac{1}{6}$$

$$\frac{2}{3} - \frac{1}{4}$$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

A.

--	--	--	--	--

$\frac{1}{2}$  of the whole

$\frac{1}{2}$  of  $\frac{1}{2}$

$\frac{1}{4}$

of  $\frac{1}{2}$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

**B.**


$$1\frac{1}{2} \text{ of } \frac{3}{4}$$

$$1\frac{1}{3} \text{ of } \frac{3}{4}$$

$$2\frac{2}{3} \text{ of } \frac{3}{4}$$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

C.


$$\frac{1}{4} \text{ of } \frac{4}{8}$$

$$\frac{1}{3} \text{ of } \frac{3}{8}$$

$$\frac{2}{3} \text{ of } \frac{3}{8}$$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

A.


$\frac{1}{3}$  of the whole

$\frac{1}{2}$  of  $\frac{1}{3}$

$\frac{1}{2}$  of  $\frac{2}{3}$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

**B.**

--	--	--	--	--	--

$$\frac{1}{5} \text{ of } \frac{5}{10}$$

$$\frac{2}{5} \text{ of } \frac{5}{10}$$

$$\frac{3}{5} \text{ of } \frac{5}{10}$$





What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

C.


$$\frac{1}{3} \text{ of } \frac{3}{5}$$

$$\frac{2}{3} \text{ of } \frac{3}{5}$$

$$\frac{1}{4} \text{ of } \frac{4}{5}$$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

A.


$\frac{1}{4}$  of the whole

$\frac{1}{2}$  of  $\frac{1}{4}$

$\frac{1}{2}$  of  $\frac{3}{4}$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

**B.**


$$1\frac{1}{2} \text{ of } \frac{3}{4}$$

$$1\frac{1}{3} \text{ of } \frac{3}{4}$$

$$1\frac{1}{5} \text{ of } \frac{5}{8}$$



What is \_\_\_ of \_\_\_? How do you know? How can you use what we already know to solve this next problem?

C.

--	--	--	--	--	--

$$\frac{1}{4} \text{ of } \frac{4}{10}$$

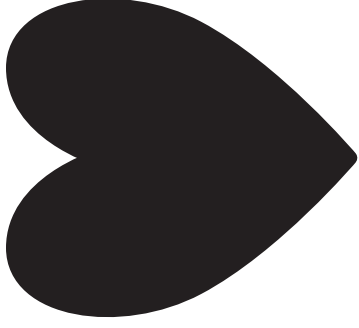
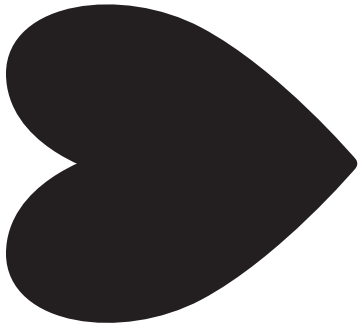
$$\frac{1}{2} \text{ of } \frac{4}{10}$$

$$\frac{3}{4} \text{ of } \frac{4}{10}$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?

A.

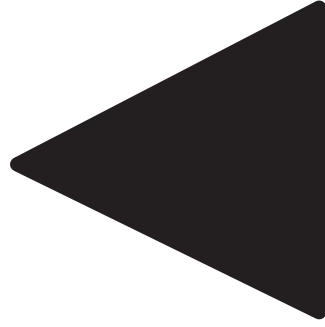
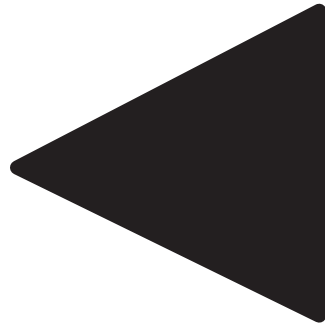
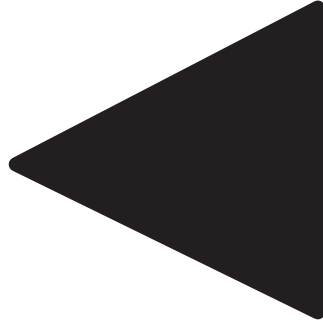
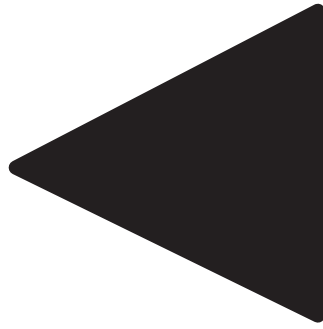


$$\frac{1}{2}?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?

B.



$$\frac{1}{2}?$$

$$\frac{2}{4}?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?

C.



$$\frac{1}{2}?$$

$$\frac{4}{8}?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?



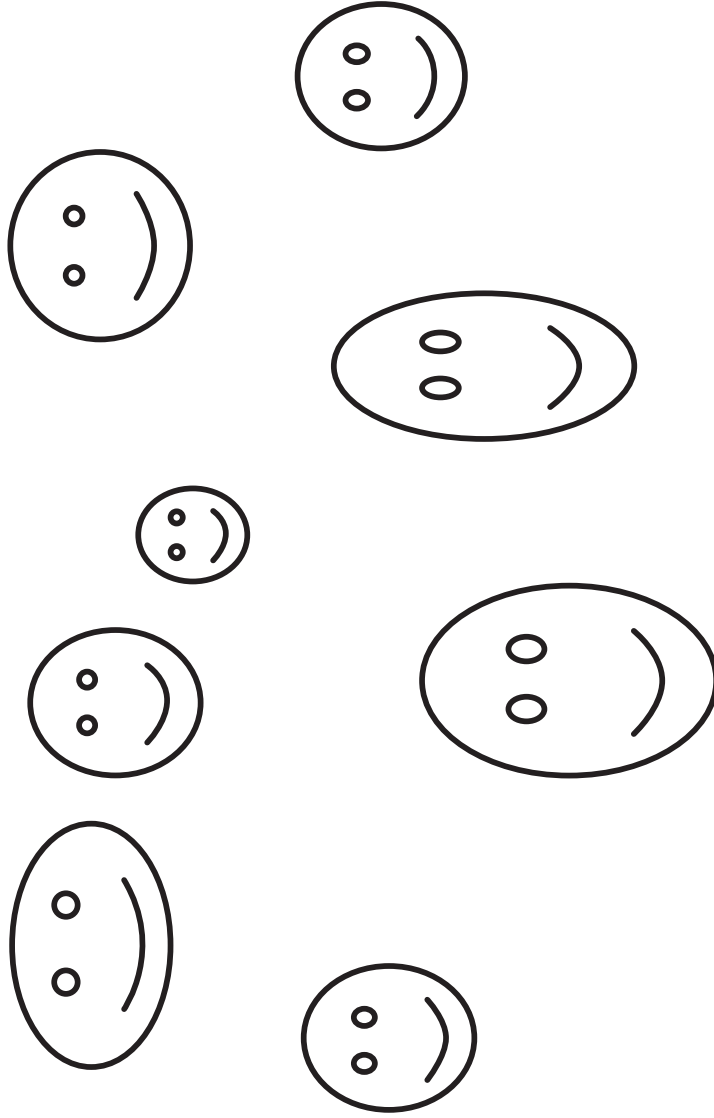
$$\frac{1}{2} ? \quad \frac{8}{16} ?$$





Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?

E.

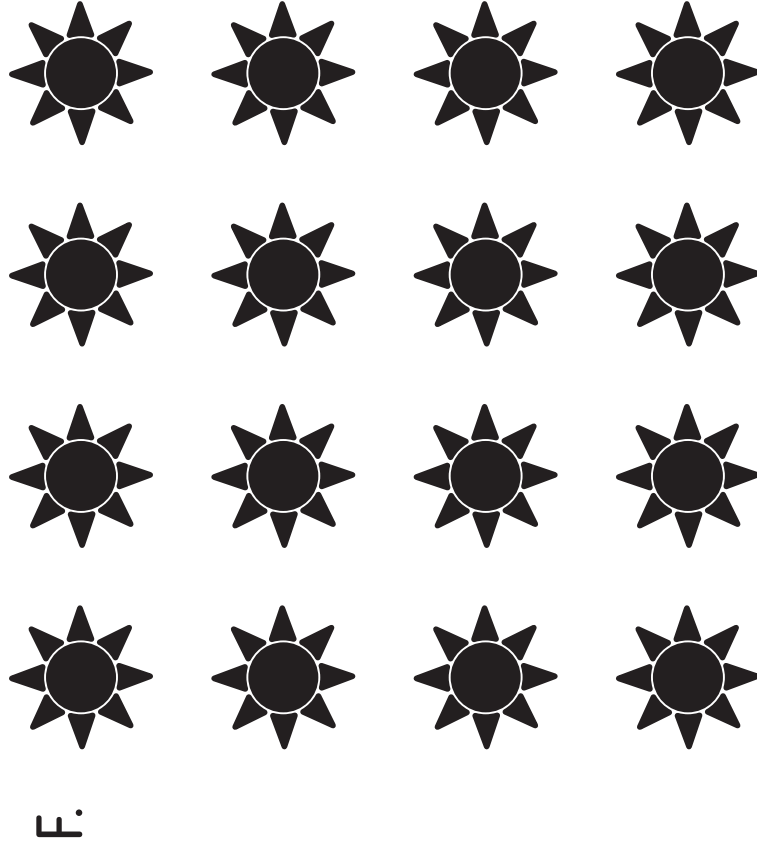


$$\frac{1}{2}?$$

$$\frac{4}{8}?$$



Can you see  $\frac{1}{2}$  of the whole? Can you see  $\frac{1}{2}$  in a different way?  
How can you prove your thinking?

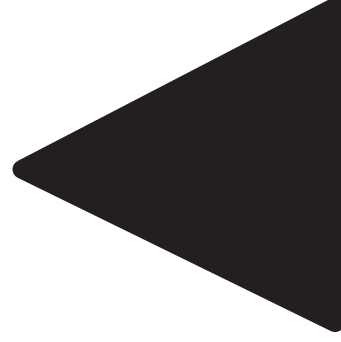
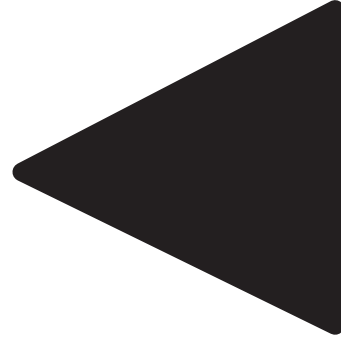
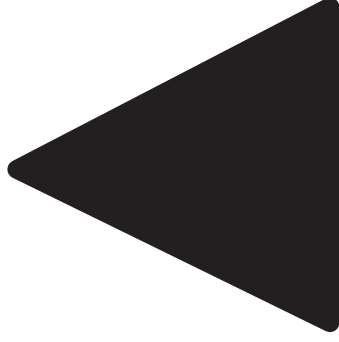
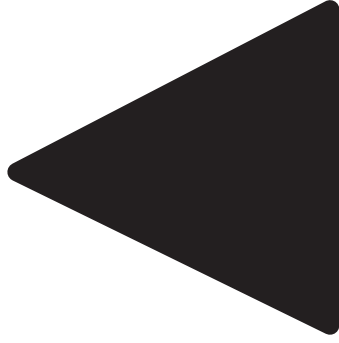


$$\frac{1}{2}?$$
$$\frac{8}{16}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?

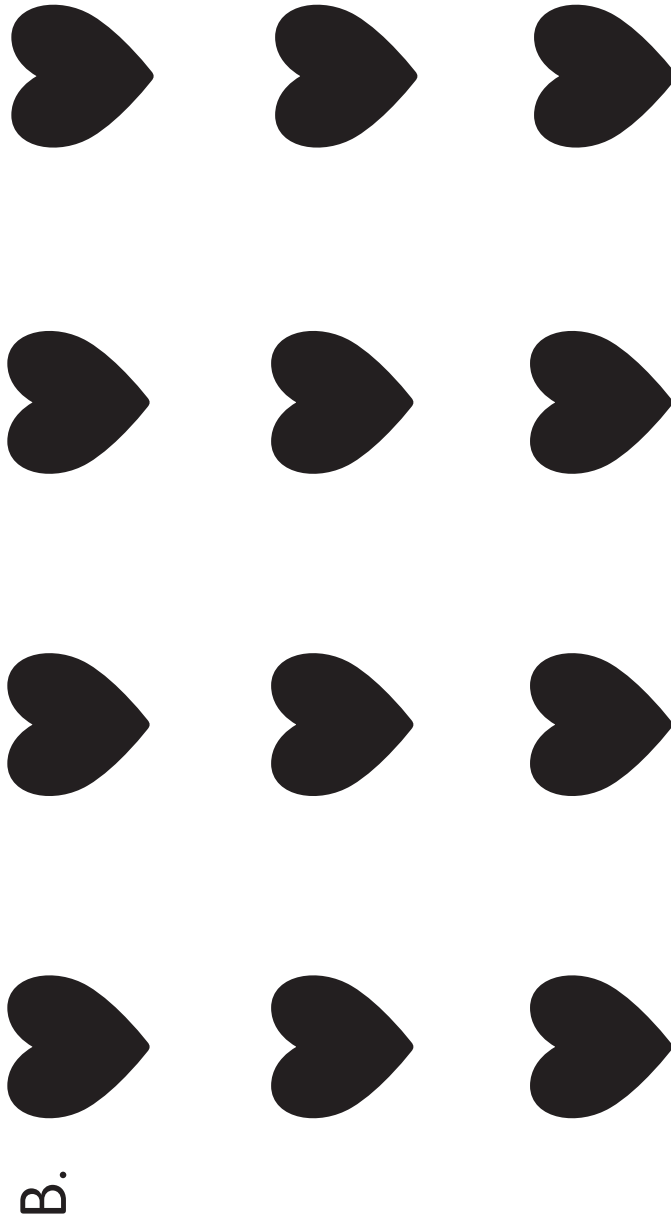
A.



$\frac{1}{4}$ ?



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?



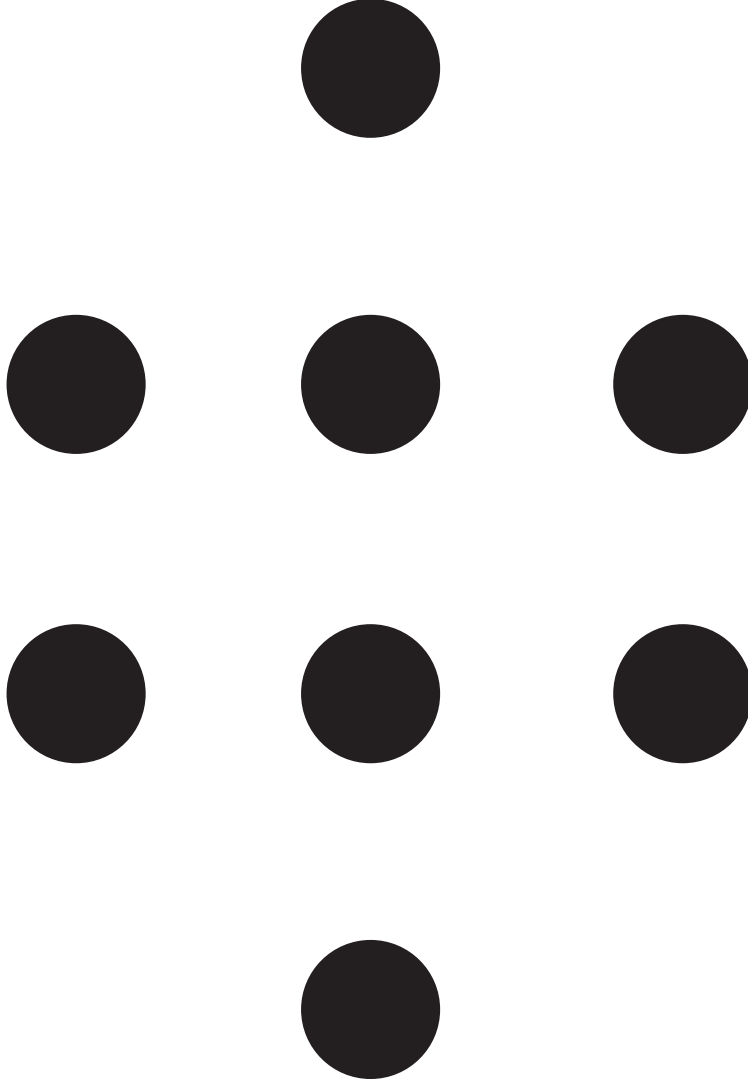
$$\frac{1}{4}?$$

$$\frac{3}{12}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?

C.



$$\frac{1}{4}?$$

$$\frac{2}{8}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?

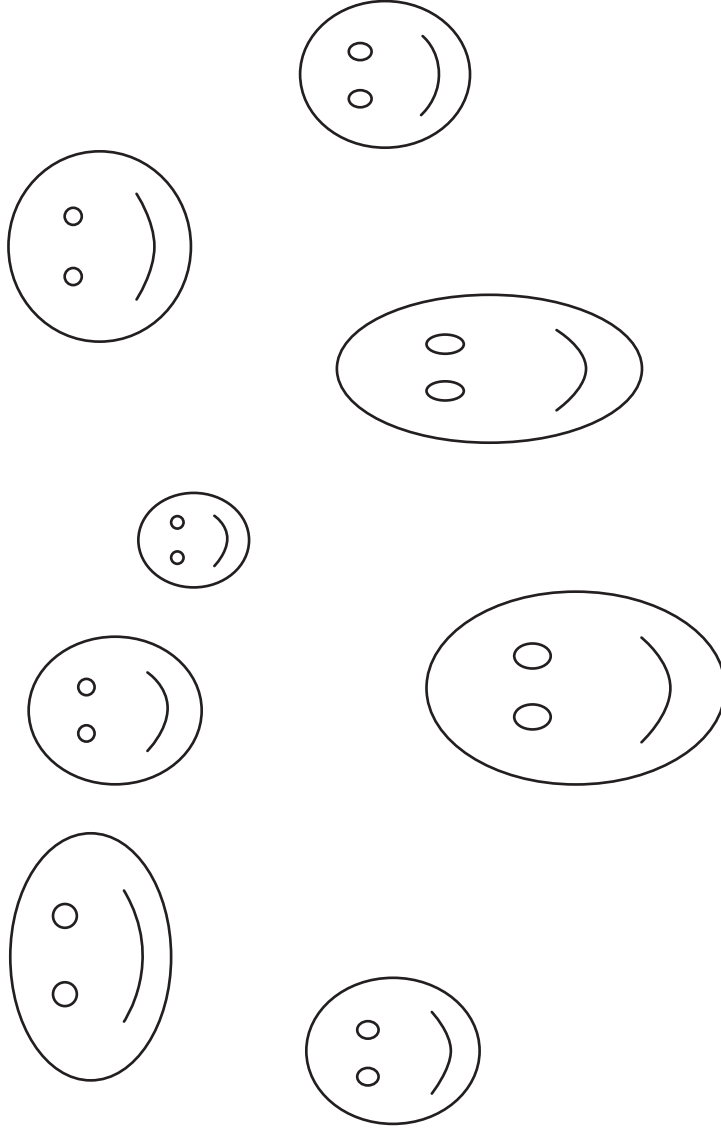


$$\frac{1}{4}?$$
$$\frac{6}{8}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?

E.

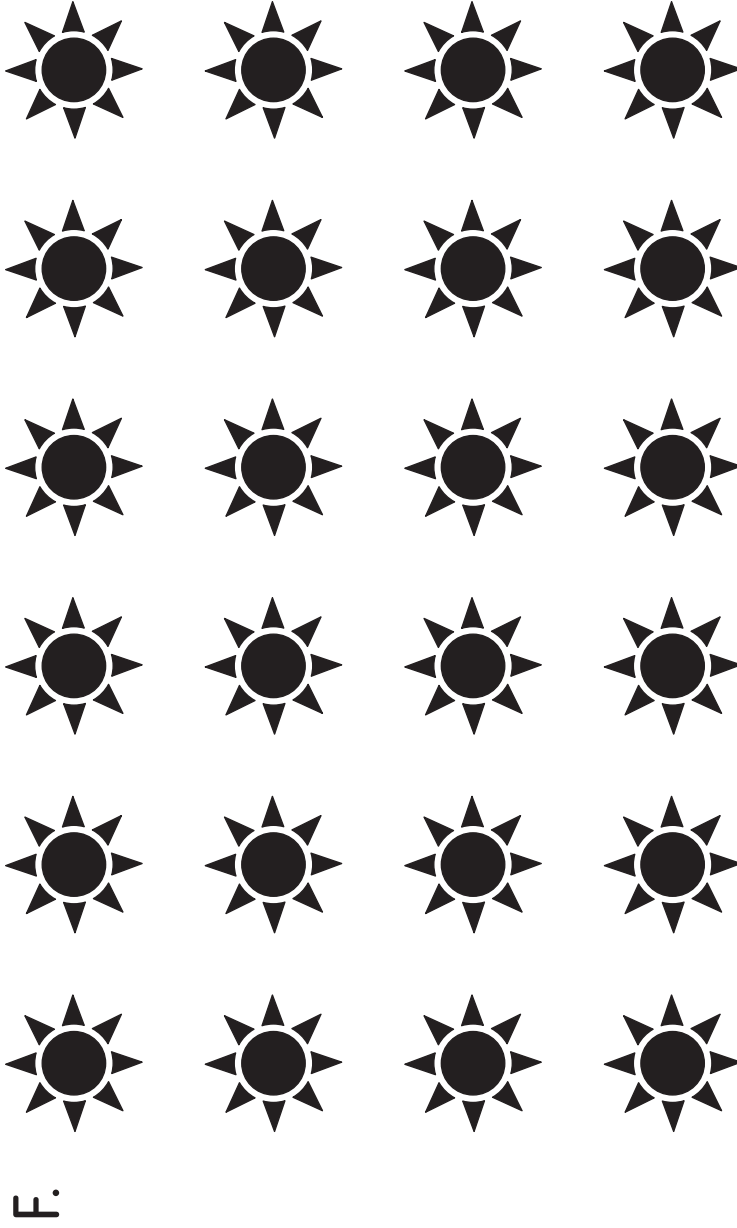


$$1\frac{1}{4}?$$

$$2\frac{2}{8}?$$



Can you see  $\frac{1}{4}$  of the whole? Can you see  $\frac{1}{4}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{4}?$$

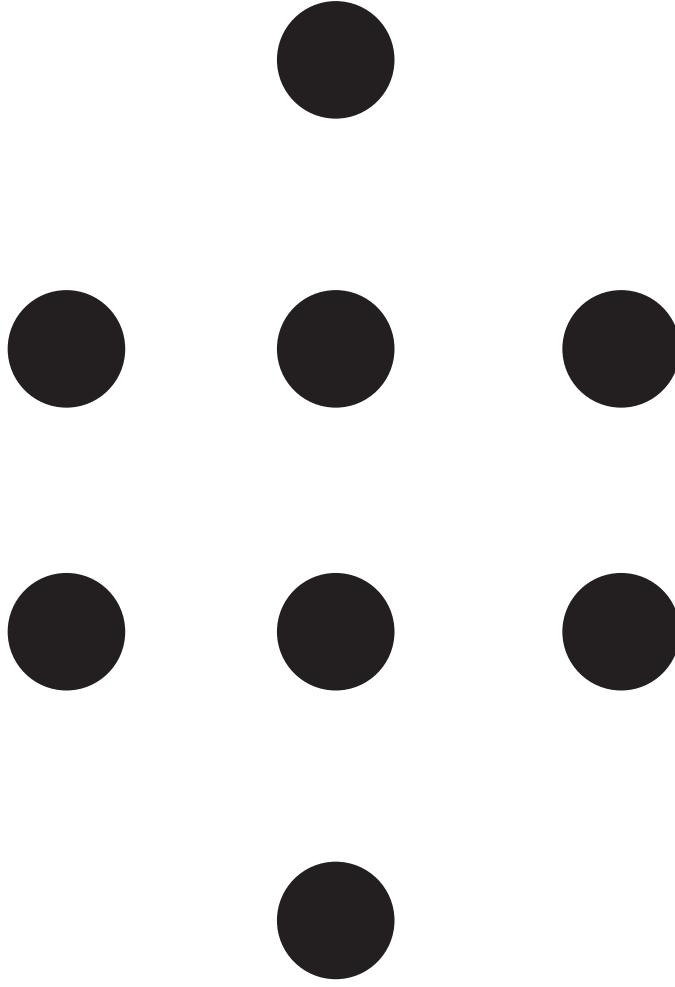
$$\frac{6}{24}?$$





Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way?  
How can you prove your thinking?

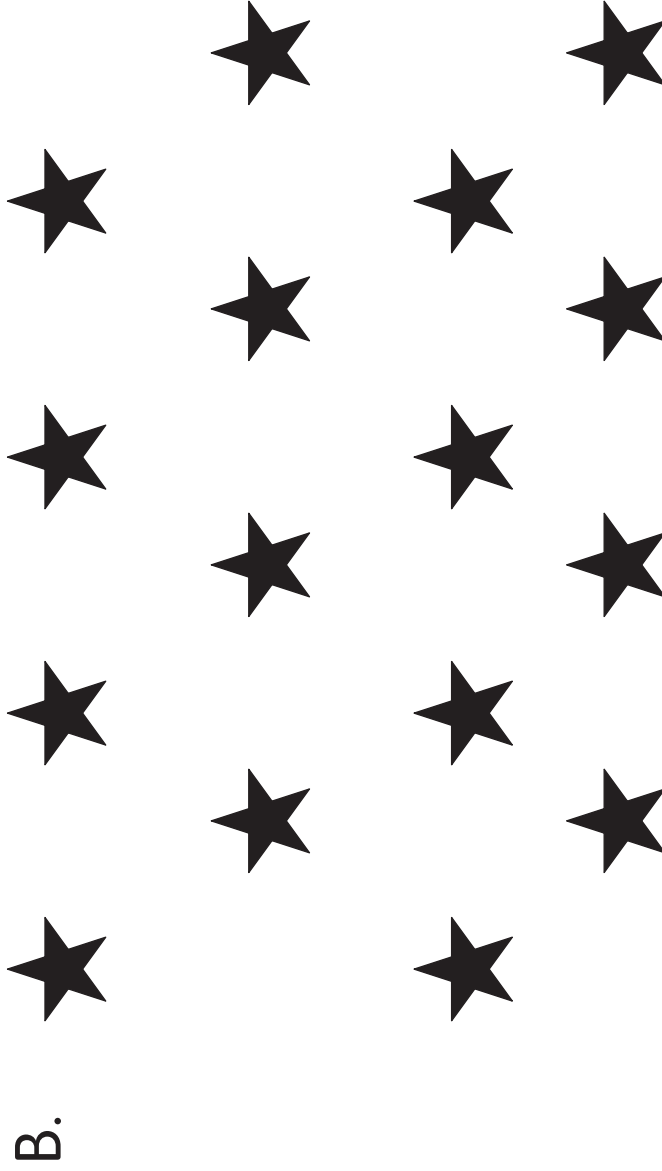
A.



$$\frac{1}{8}?$$



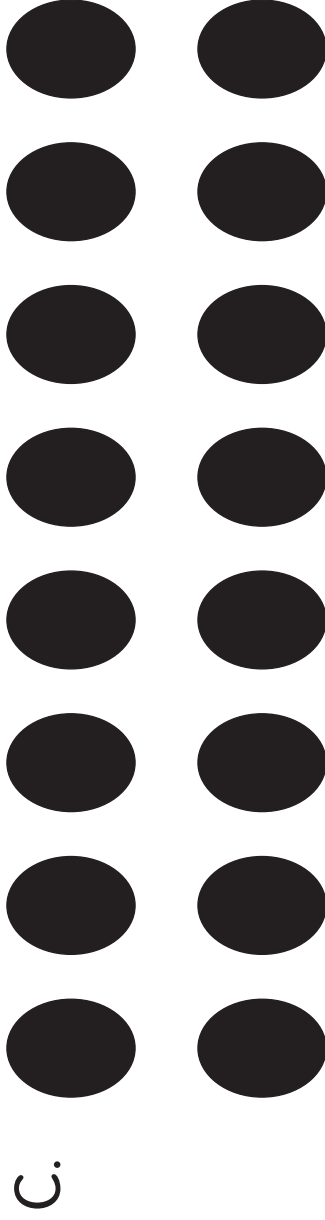
Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{8} \quad ? \quad \frac{2}{16} \quad ?$$



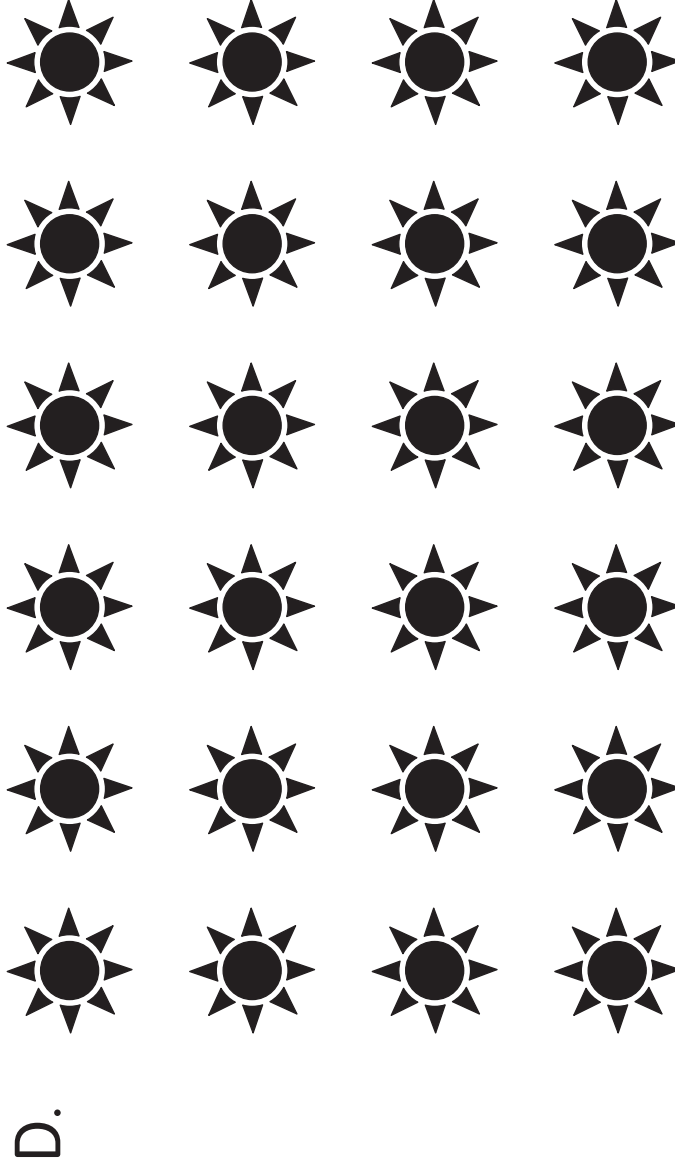
Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{8} \quad ? \quad \frac{2}{16} \quad ?$$



Can you see  $\frac{1}{8}$  of the whole? Can you see  $\frac{1}{8}$  in a different way?  
How can you prove your thinking?

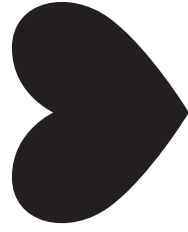


$$\frac{1}{8} \quad \frac{3}{24} \quad ?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?

A.



$$\frac{1}{3}?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?

B.

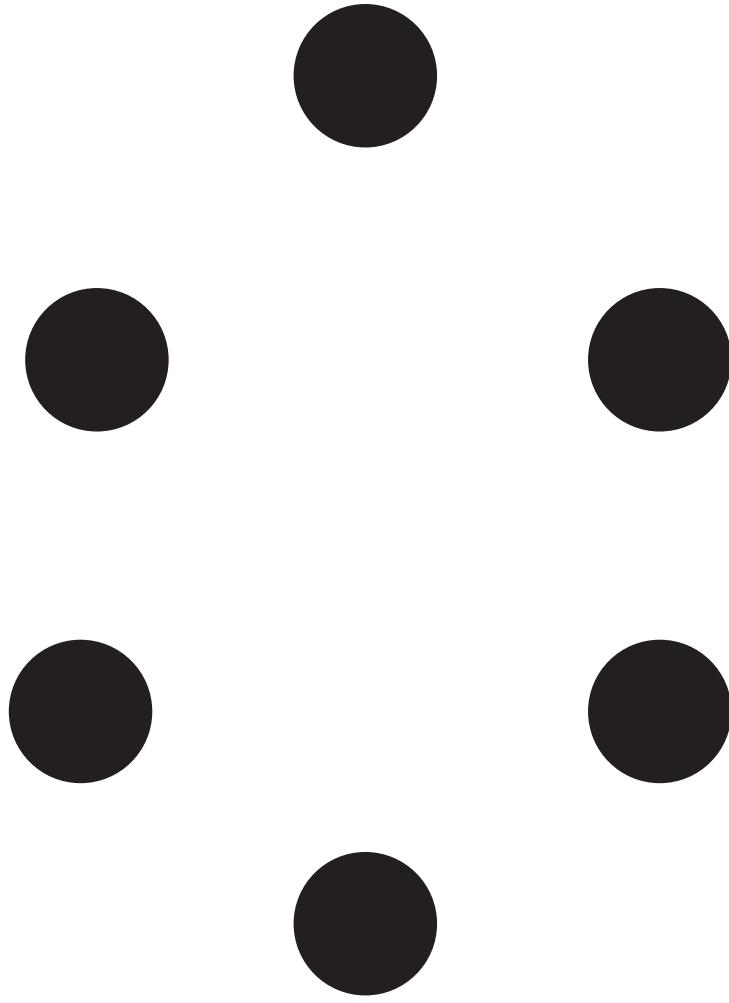


$$\frac{1}{3} ? \quad \frac{3}{9} ?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?

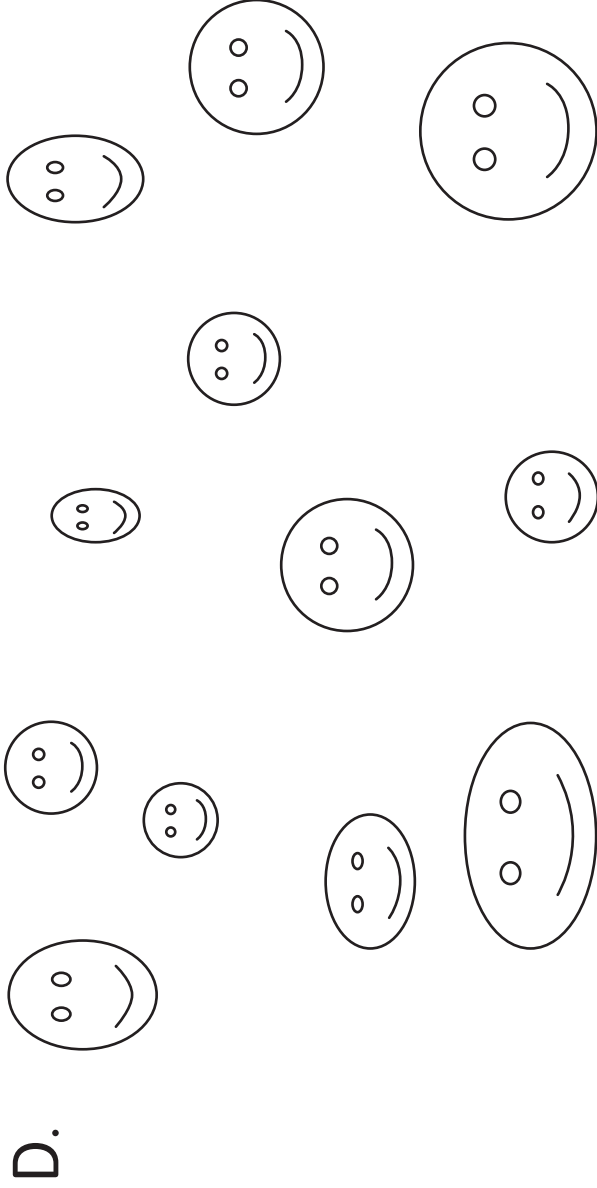
C.



$$\frac{1}{3}?$$
$$\frac{2}{6}?$$



Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?



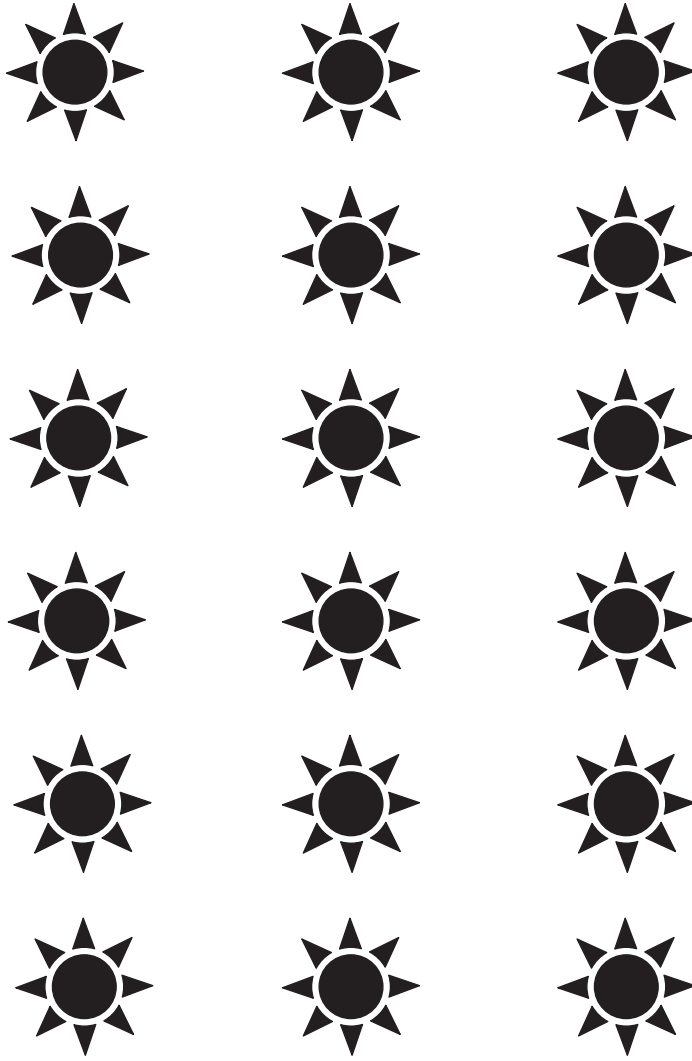
$$\frac{1}{3} \quad ? \quad \frac{4}{12} \quad ?$$





Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?

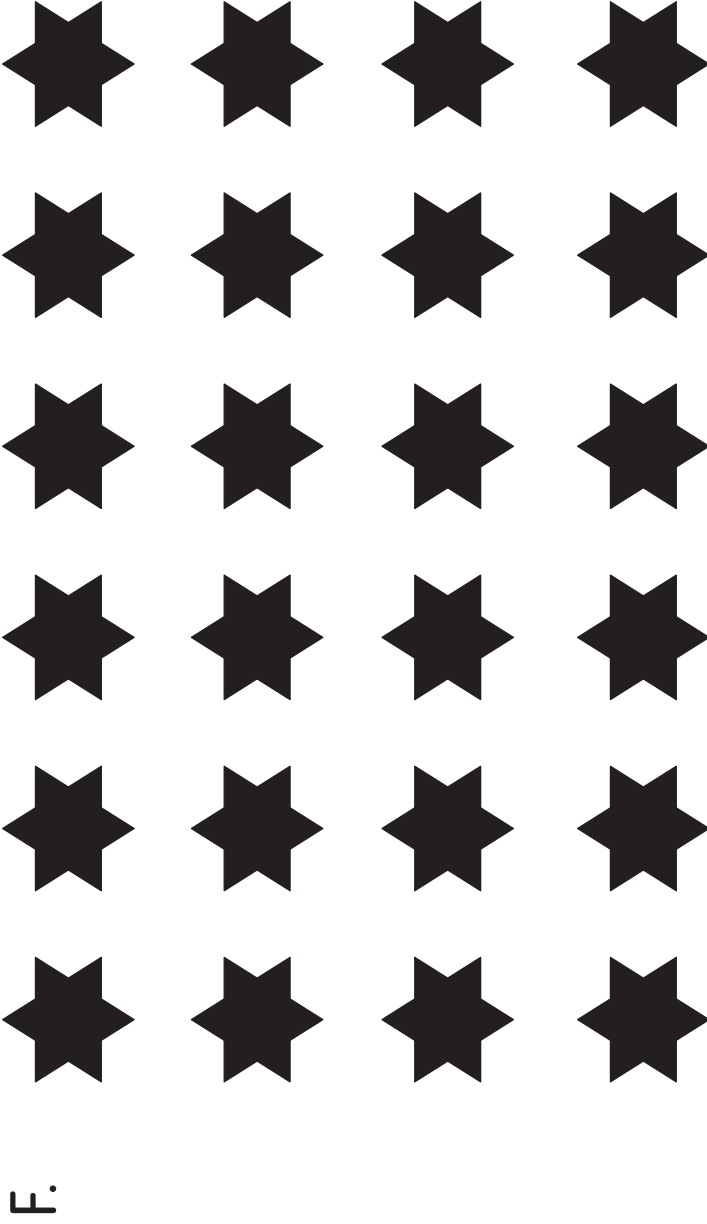
E.



$$\frac{1}{3} \quad ? \quad \frac{6}{18} \quad ?$$



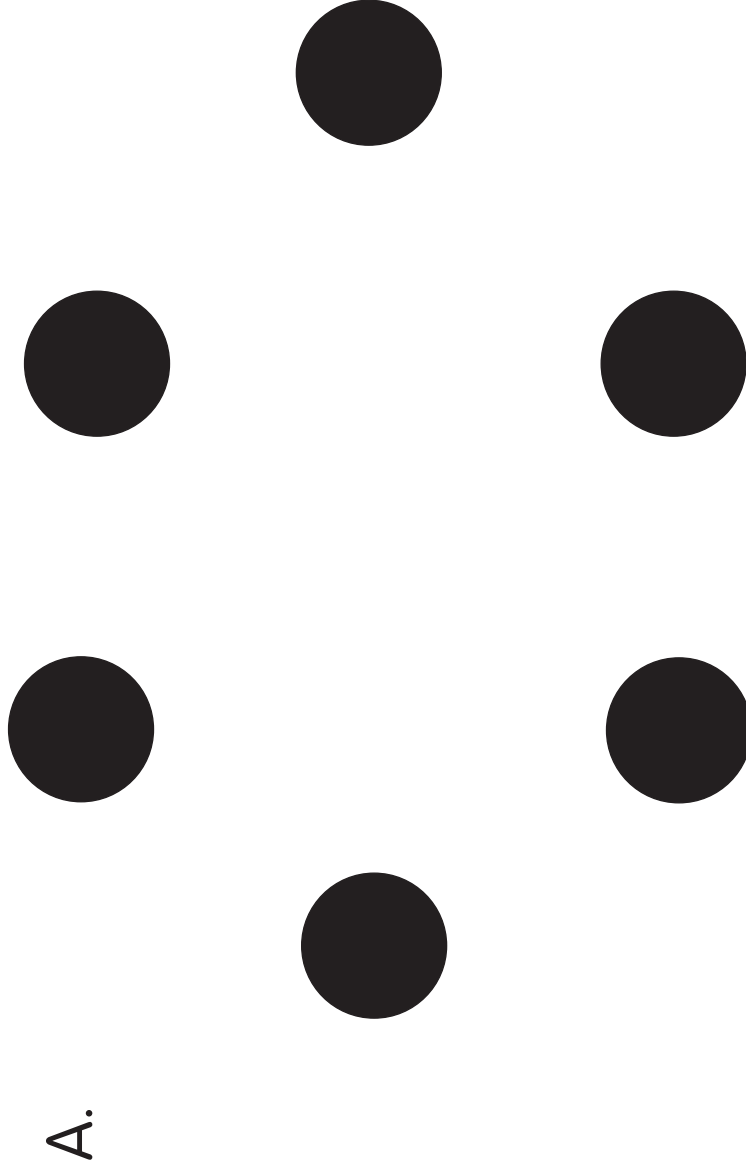
Can you see  $\frac{1}{3}$  of the whole? Can you see  $\frac{1}{3}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{3}?$$
$$\frac{8}{24}?$$



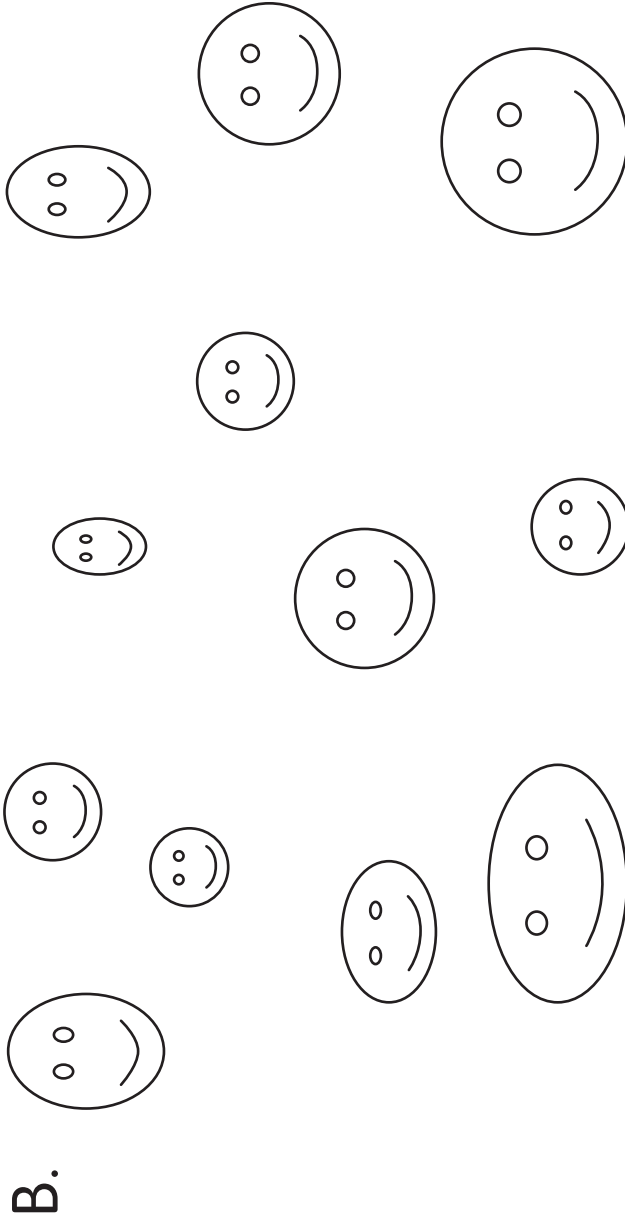
Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{6}?$$



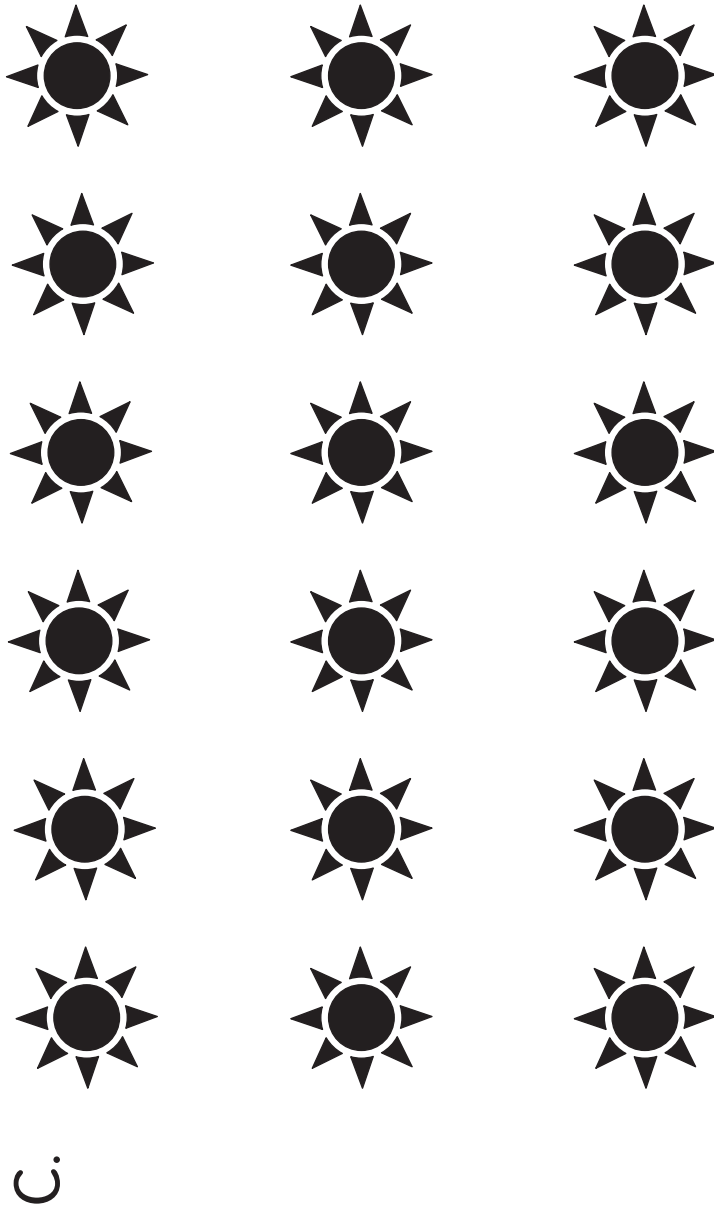
Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{6} ? \quad \frac{2}{12} ?$$



Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way?  
How can you prove your thinking?



$$\frac{1}{6}?$$
$$\frac{3}{18}?$$

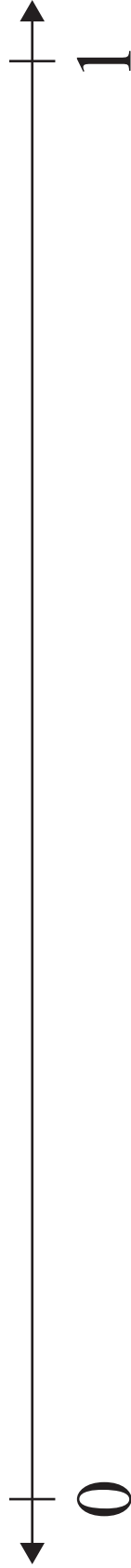


Can you see  $\frac{1}{6}$  of the whole? Can you see  $\frac{1}{6}$  in a different way?  
How can you prove your thinking?

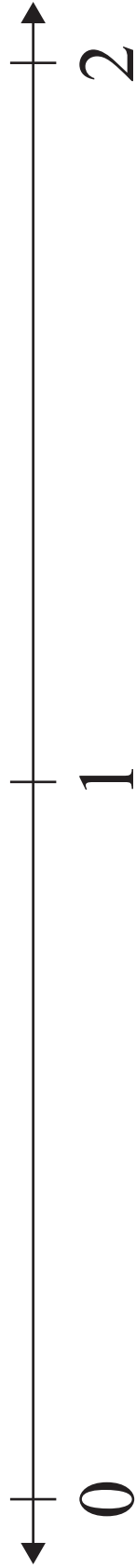


$$\frac{1}{6} \quad \frac{4}{24}$$

## 0 to 1 Number line



## 0 to 2 Number Line





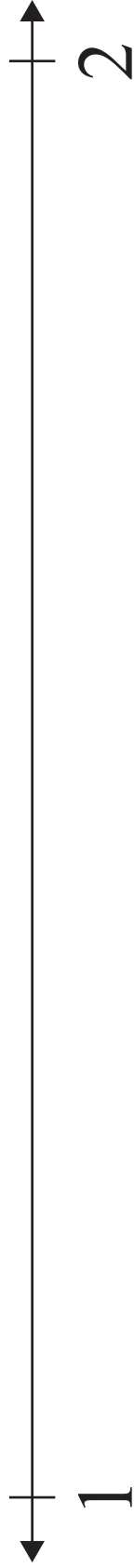


## 0 to 4 Number Line



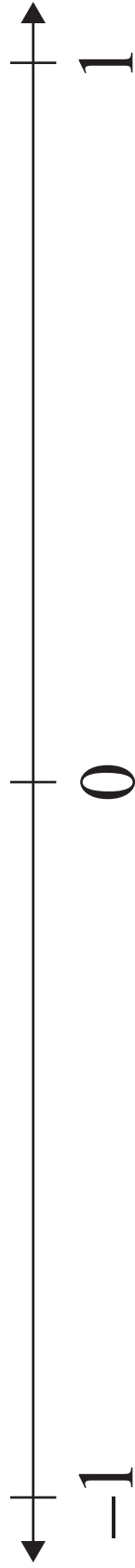


## 1 to 2 Number Line



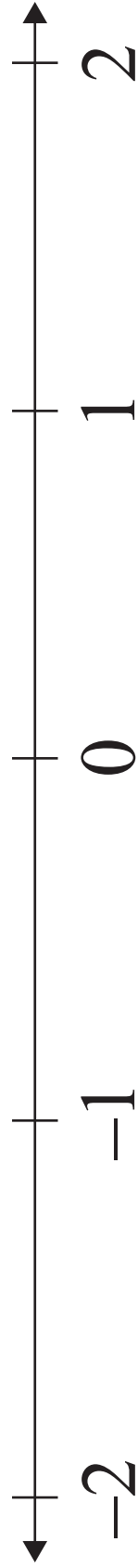


# -1 to 1 Number Line



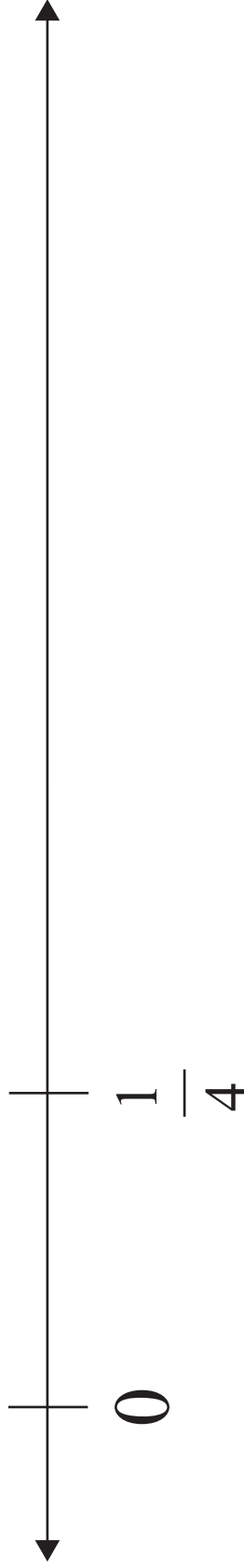


## -2 to 2 Number Line

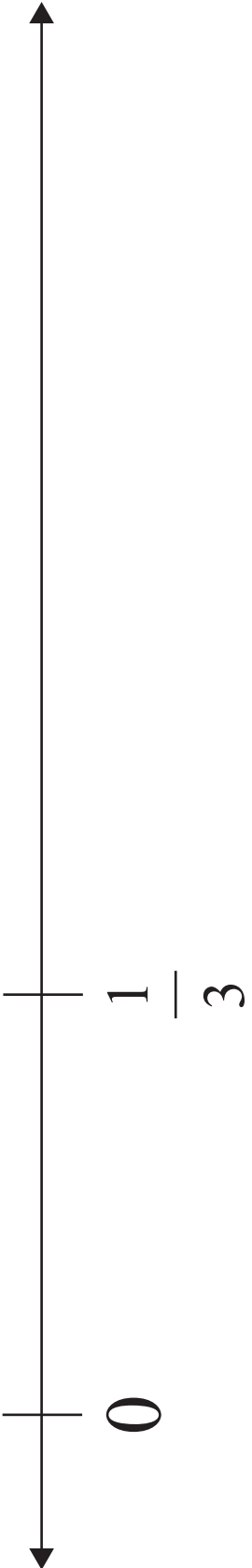




Where should  $\frac{5}{8}$  be placed? How do you know?

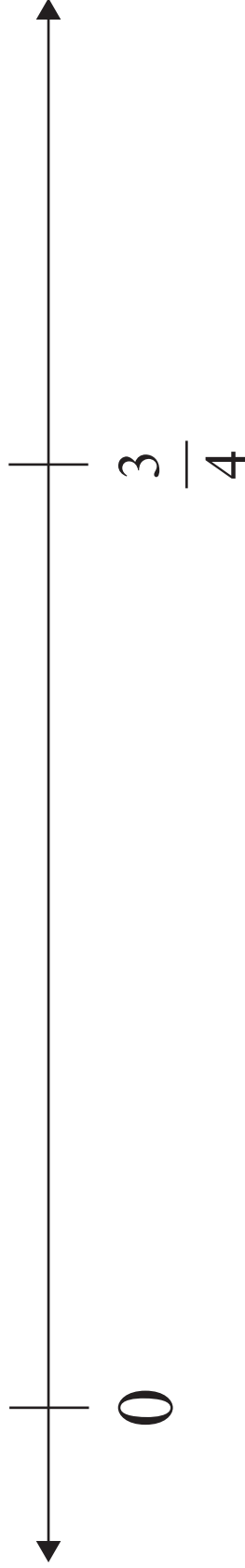


Where should  $\frac{5}{6}$  be placed? How do you know?



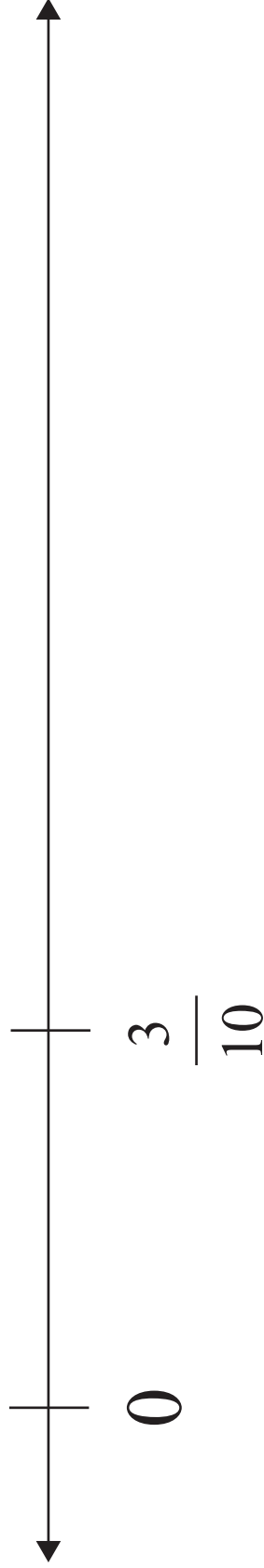


Where should  $\frac{3}{8}$  be placed? How do you know?



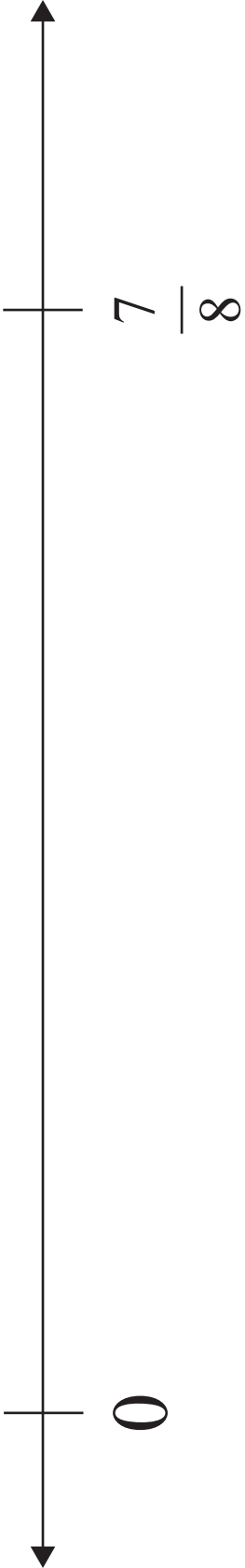


Where should  $\frac{4}{5}$  be placed? How do you know?



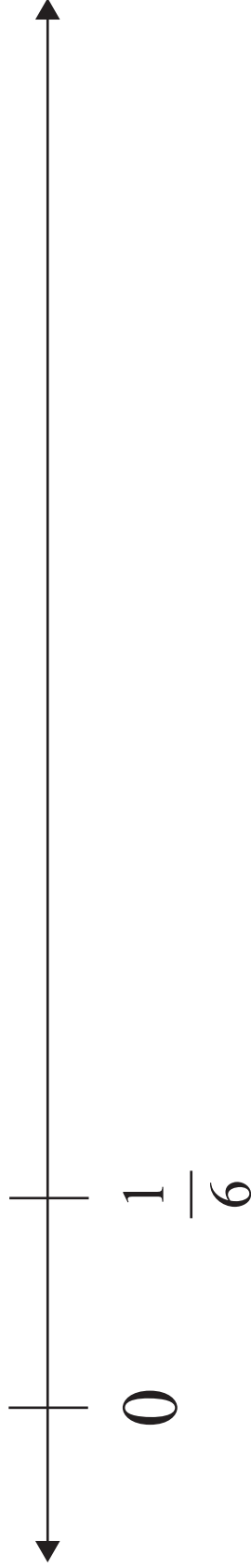


Where should  $\frac{5}{16}$  be placed? How do you know?



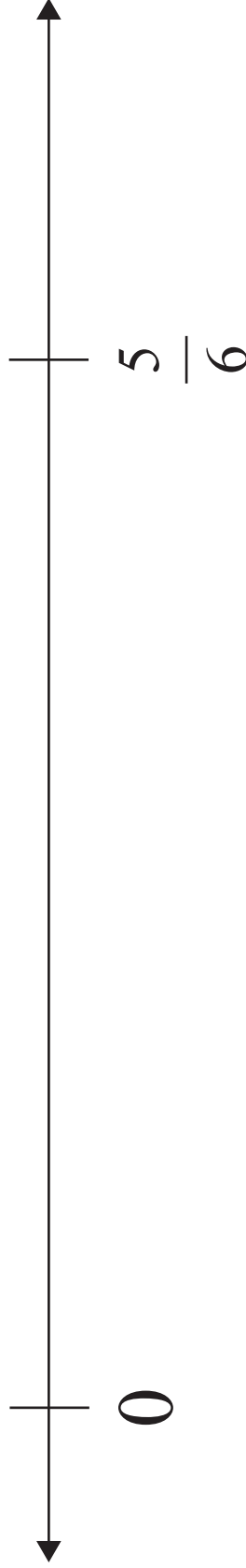


Where should  $\frac{3}{4}$  be placed? How do you know?



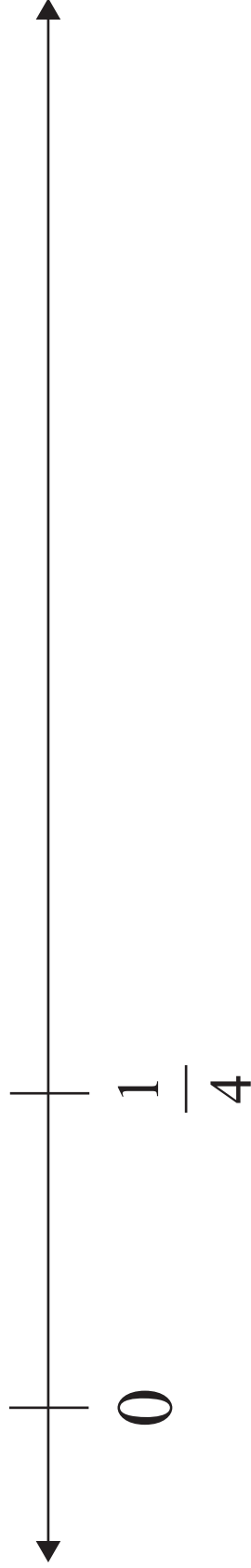


Where should  $\frac{3}{8}$  be placed? How do you know?



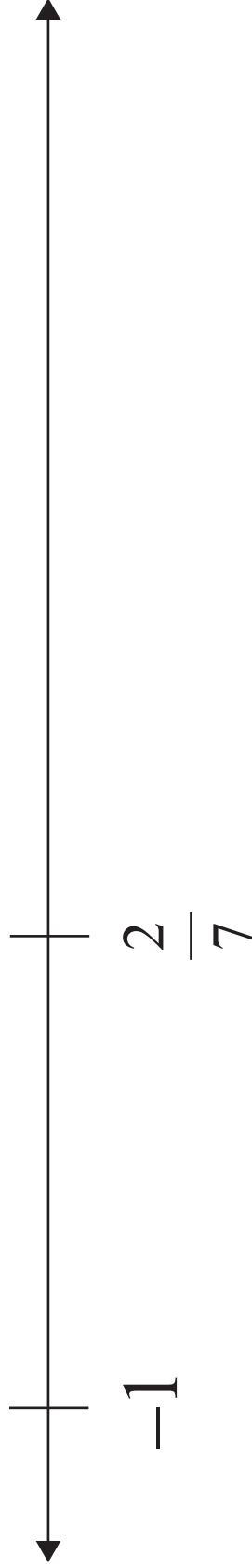


Where should  $\frac{5}{9}$  be placed? How do you know?



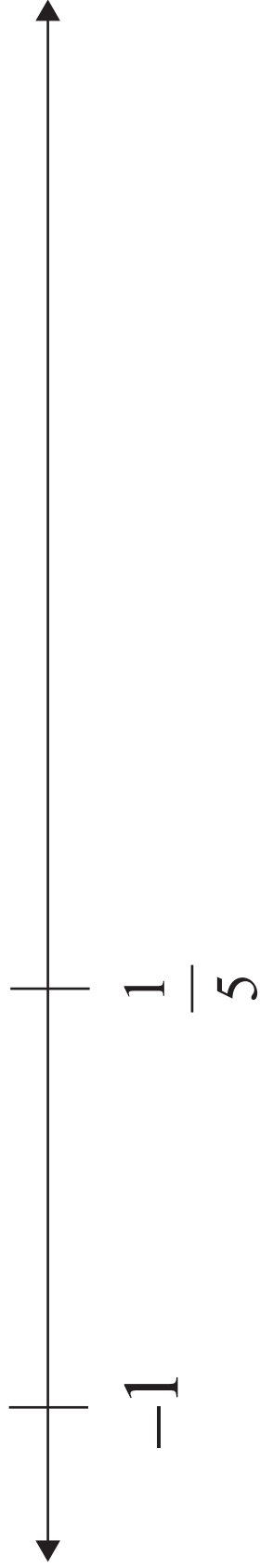


Where should  $\frac{3}{4}$  be placed? How do you know?

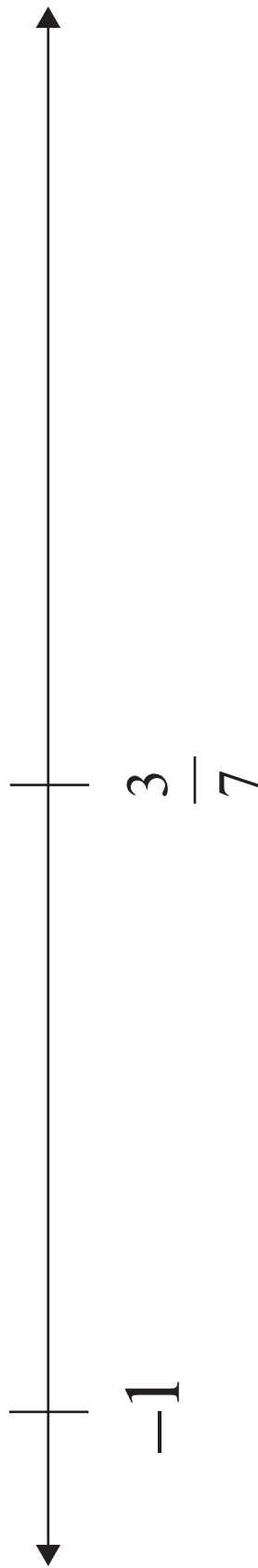




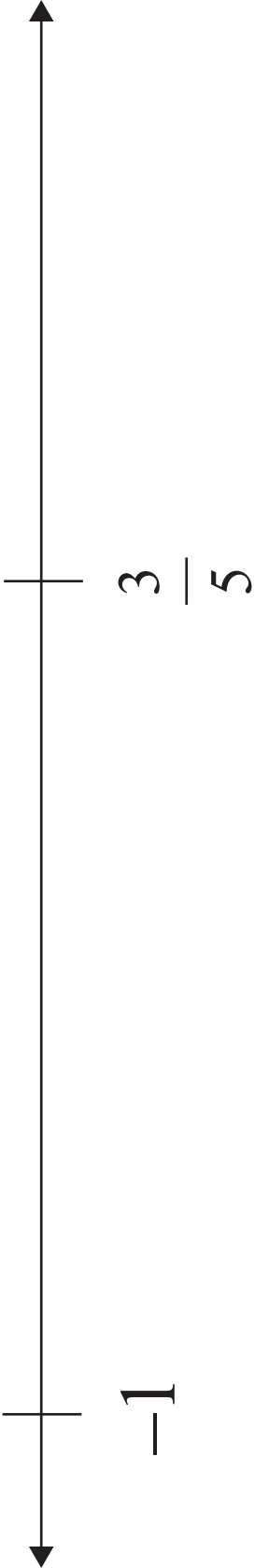
Where should  $\frac{2}{3}$  be placed? How do you know?



Where should  $\frac{4}{5}$  be placed? How do you know?



Where should  $1\frac{1}{4}$  be placed? How do you know?

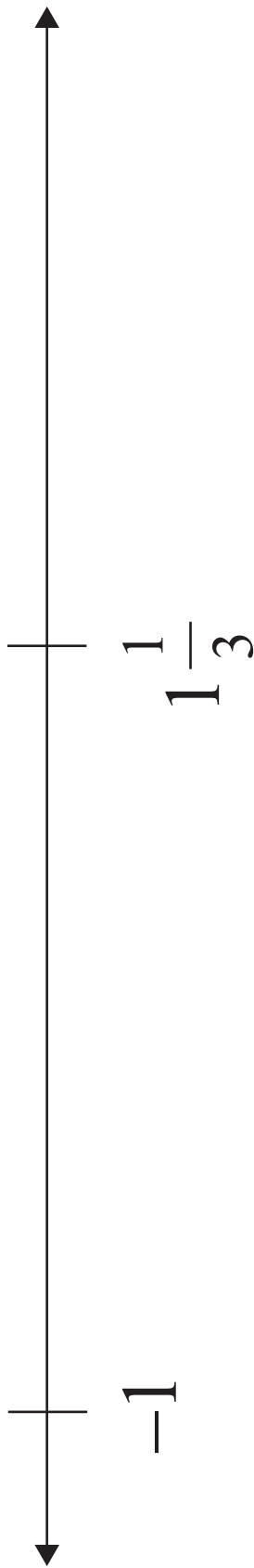




Where should  $\frac{3}{4}$  be placed? How do you know?

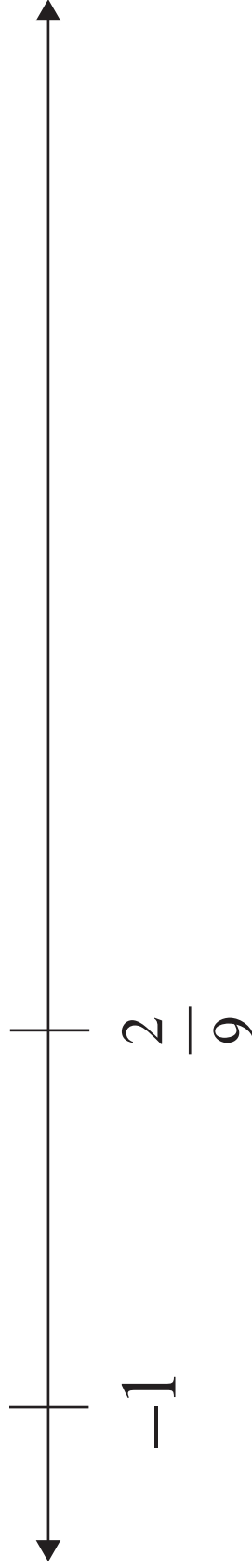


Where should  $\frac{4}{5}$  be placed? How do you know?



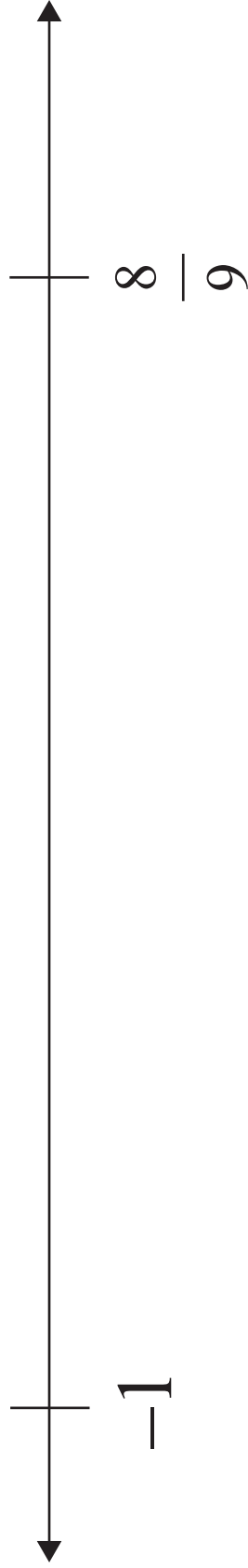


Where should  $\frac{3}{4}$  be placed? How do you know?



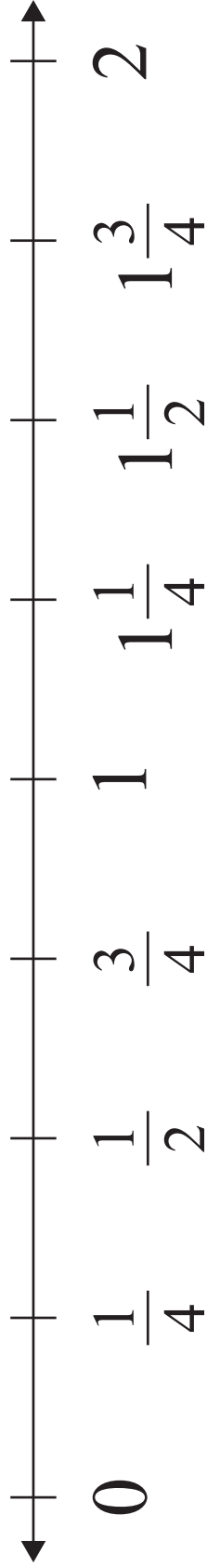


Where should  $\frac{5}{7}$  be placed? How do you know?





## 0 to 2 Number Line, Partitioned into $\frac{1}{4}$ s





## 0 to 2 Number Line, Partitioned into $\frac{1}{2}$ s and $\frac{1}{3}$ s

