



**Math Solutions.**<sup>®</sup>

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# Math Talk

## Mathematical Sense Making Through Mental Math

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## Session Goals

In this session, we will -

- Experience a Math Talk
- Explore the structure of a Math Talk in the secondary classroom
- Engage in the creation of a Math Talk for use in your own classroom

## Let's Get Started !

Once the problem is given -

- Work by yourself to solve the problem without using paper and pencil
- When you have a response, please indicate that you are ready using a “thumbs up”

Which of the following does not belong? Why?

$$y = x$$

$$y = 2x$$

$$y = x + 2$$

$$y = x^2$$

## What is a Math Talk?

***Math Talk*** is a 5 – 15 minute classroom conversation around problems that students solve mentally.

They help students in -

- making sense of mathematics
- developing efficient computation strategies
- communicating reasoning
- proving solutions

## Once the Problem is Given -

### Provide appropriate wait time -

- *Use a signal for students to indicate they are ready*

### In gathering responses -

- Accept, respect, and consider all answers.
- *Ask 2 – 4 students to share/justify answer*
- *Record methods/answers on chart paper*

### Encourage student communication

- *Create an environment where students feel safe in sharing.*
- *Treat mistakes as learning opportunities*

# Reflecting on Your Experience

Think about the math talk you just experienced –

What are some of the characteristics that made this prompt worthy to talk about?

# Characteristics of a Math Talk

- Is an open ended question
- Has more than one possible answer
- Can be done mentally
- Students hear a variety of strategies to solve a problem.
- Creates opportunity to reinforce mathematics vocabulary



## Types of Math Talk

While there are many different ways that a Math Talk prompt can be presented to students, we will focus on 3 categories:

- Which Does Not Belong?
- Tell Me All You Can
- Working Backwards

# Examples

As you look at the following examples, consider –

- What are some possible answers?
- What might be the teacher’s goal in presenting this prompt?
- How does it fit our criteria for a Math Talk?

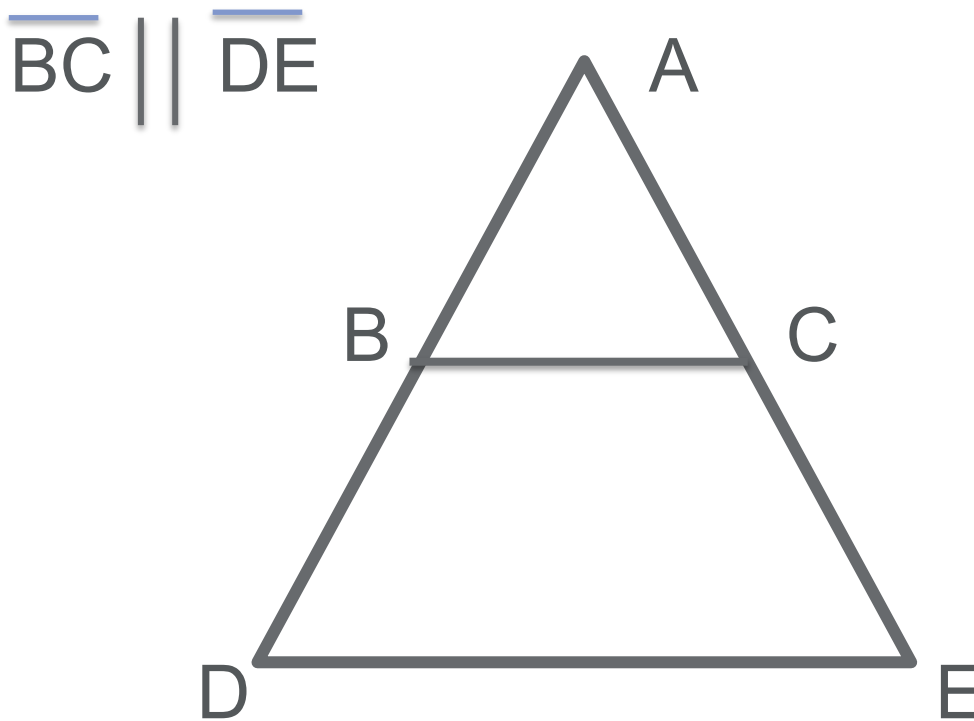
# Working Backward

Joe simplified an expression and got a result of  $3x^2$  .

What was the original problem?

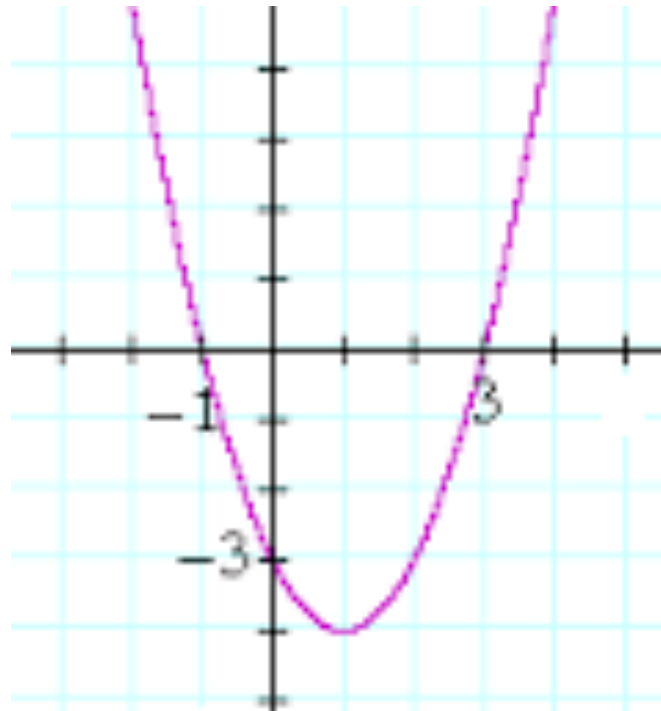
# Tell Me All You Can

Tell me all you can about the diagram below.



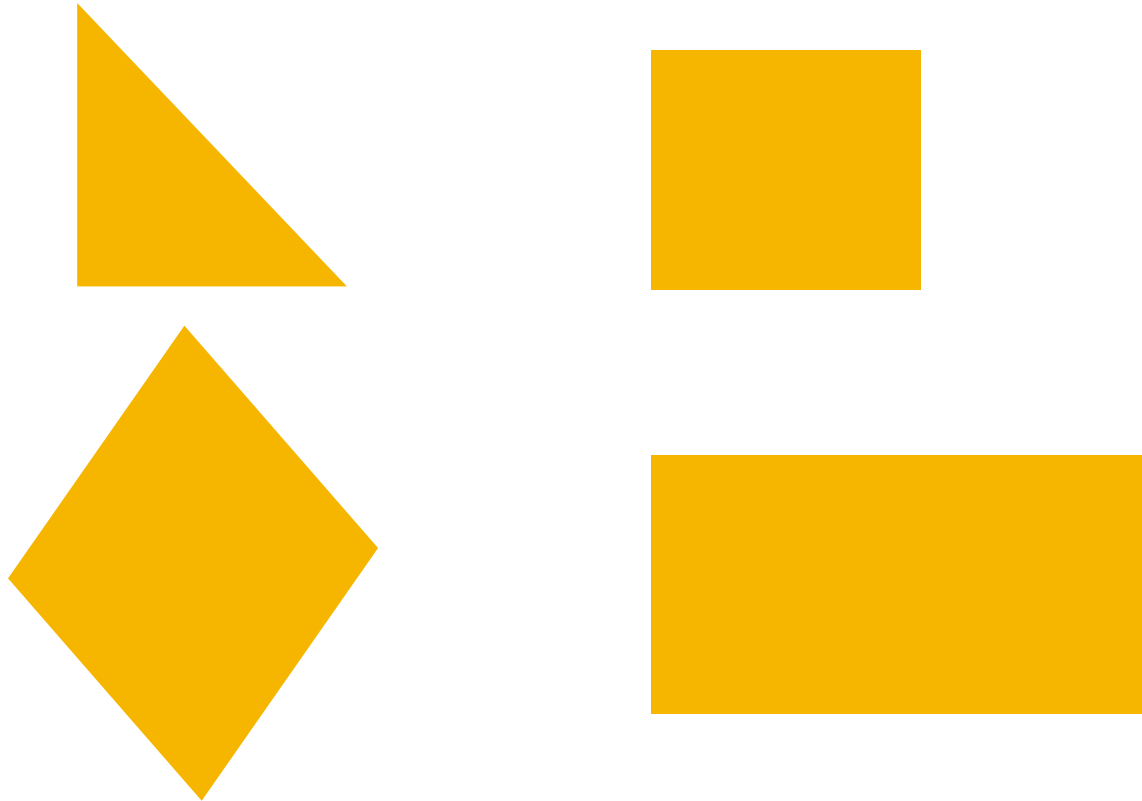
# Tell Me All You Can

Tell me all you can about the graph below:

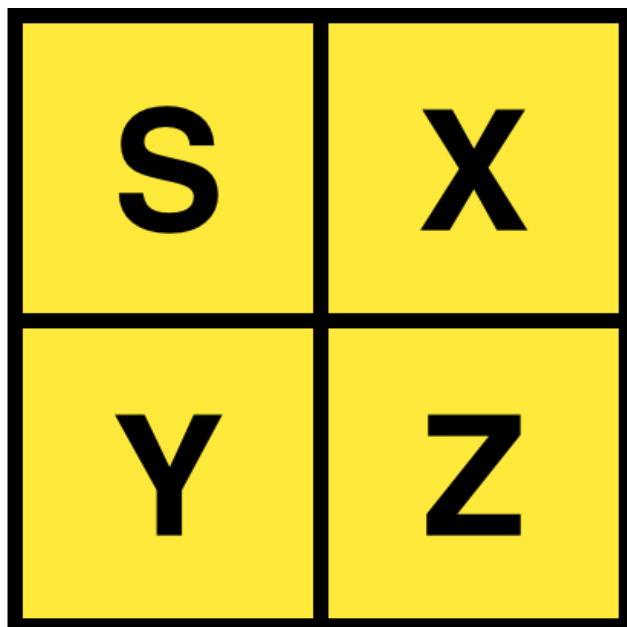


# Which Does Not Belong

Which does not belong with the others and why?



Which one does not belong with the others and why?



## Your Turn

Work individually or with a partner and write one or two Math Talk questions for any of the three categories.



## Consider-

“When we ask students questions about relationships, properties, and procedures associated with number concepts, we help our students make important mathematical connections between numbers and their representations.”

From *Good Questions for Math Teaching* by Lainie Schuster and Nancy Canavan Anderson, page 17

## Summary and Reflection

Turn to a partner and discuss –

- How might using a Math Talk routine in your classroom impact your students?

# Thank you!

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