

Math Talks

Implementing a Math Talk

A Math Talk is a 5- to 10-minute, whole-class activity.

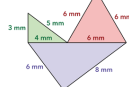
- **Present a problem** to the whole class that can be completed in a few minutes.
- **Have students work independently** on the problem for a brief time.
- **Have students share their methods** aloud and compare methods so that they can refine their own approaches, noting and analyzing any error they may have made. These whole-class conversations increase students' capacity for collaborative, interpretive, and productive communication.

Math Talk 8.G.7, SMP.7, SMP.8

Strategize First Steps

Decide on a first step.

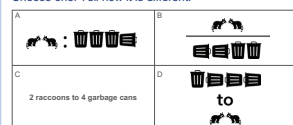
Which triangles, if any, are right triangles?



Math Talk 6.RP.2, 6.RP.3

Which One Doesn't Belong?

Choose one. Tell how it is different.



Math Talk 7.NS.2b, 7.NS.2c, SMP.7

Algebra Strings

Look for a pattern.

Addition	Multiplication	Value
$(-5) + (-5) + (-5) + (-5)$	$4 \times (-5)$	<input type="checkbox"/>
$(-5) + (-5) + (-5)$	<input type="checkbox"/> $\times (-5)$	<input type="checkbox"/>
$(-5) + (-5)$	<input type="checkbox"/> $\times (-5)$	<input type="checkbox"/>
(-5)	<input type="checkbox"/> $\times (-5)$	<input type="checkbox"/>
0	<input type="checkbox"/> $\times (-5)$	<input type="checkbox"/>

Math Talk 6.EE.8, SMP.4

Slow Reveal Graph

What do you think this graph is about?



Math Talk Routines

Each Math Talk uses one of the following routines.

Strategize First Steps

Students decide on a first step. It encourages a discussion about multiple points of entry to solving a problem. Students are not expected to solve the problem.

Which One Doesn't Belong?

Students choose one of four items and tell how it is different. Each of the four items differs from the other three in at least one way.

Algebra Strings

Students are given a string of numerical expressions with a pattern. The second screen may have algebra below the numbers to facilitate a generalization.

Slow Reveal Graph

Students are asked what they think a graph is about. They are given a small amount of information on the first screen followed by more information on subsequent screens. This allows them to focus on the different parts of the graph and analyze the information it shows.

Same But Different

Students are asked to compare two images, equations, or graphs. They identify similarities and differences between the representations.

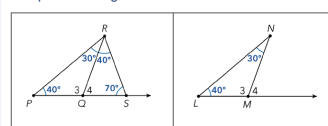
Equation Detective

Students analyze a solution to identify an error or misconception. Sometimes the answer is correct but there is an unusual step. These often include an uncommon step at some point. The idea is to get students thinking about how there are often several ways to solve a problem.

Math Talk 8.G.5, SMP.3, SMP.6

Same But Different

Compare the images.



Math Talk 7.EE.2, SMP.3

Equation Detective

Analyze this solution. Look for any mistakes.

Combine like terms.

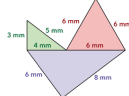
$$\begin{aligned}
 &2\frac{3}{7}b + 7\frac{4}{7}b + 5\frac{4}{11} + 14\frac{7}{11} + 2\frac{2}{5} + 4\frac{3}{5}b \\
 &= 10b + 5\frac{4}{11} + 14\frac{7}{11} + 2\frac{2}{5} + 4\frac{3}{5}b \\
 &= 10b + 20 + 2\frac{2}{5} + 4\frac{3}{5}b \\
 &= 10b + 20 + 7b
 \end{aligned}$$

Math Talk 8.G.7, SMP.7, SMP.8

Strategize First Steps

Decide on a first step.

Which triangles, if any, are right triangles?



Math Talk 6.RP.2, 6.RP.3b, SMP.1

Which One Doesn't Belong?

Choose one. Tell how it is different.

A 	B
C 2 raccoons to 4 garbage cans	D

Math Talk 7.NS.2b, 7.NS.2c, SMP.7

Algebra Strings

Look for a pattern.

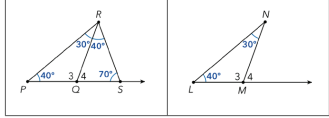
Addition	Multiplication	Value
$(-5) + (-5) + (-5) + (-5)$	$4 \times (-5)$	<input type="text"/>
$(-5) + (-5) + (-5)$	<input type="text"/> $\times (-5)$	<input type="text"/>
$(-5) + (-5)$	<input type="text"/> $\times (-5)$	<input type="text"/>
(-5)	<input type="text"/> $\times (-5)$	<input type="text"/>
0	<input type="text"/> $\times (-5)$	<input type="text"/>



Math Talk 8.G.5, SMP.3, SMP.6

Same But Different

Compare the images.



Math Talk 7.EE.2, SMP.3

Equation Detective

Analyze this solution. Look for any mistakes.

Combine like terms.

$$\begin{aligned} & 2\frac{3}{7}b + 7\frac{4}{7}b + 5\frac{4}{11} + 14\frac{7}{11} + 2\frac{2}{5} + 4\frac{3}{5}b \\ &= 10b + 5\frac{4}{11} + 14\frac{7}{11} + 2\frac{2}{5} + 4\frac{3}{5}b \\ &= 10b + 20 + 2\frac{2}{5} + 4\frac{3}{5}b \\ &= 10b + 20 + 7b \\ &= 17b + 20 \end{aligned}$$