

Are You Ready?

August 9, 2016

Mr. Collin



Order of Operations

- Do you remember the order of operations?
 - **G**rouping (Sometimes called Parentheses)
 - **E**xponents
 - **M**ultiplication & **D**ivision
 - **A**ddition & **S**ubtraction



Time to Tile!

- You will work with a partner on this task
- Each pair will need one whiteboard, one marker, and one cloth



Time to Tile!

- Write the following numbers on your whiteboard with some space in between:

3

7

12

2



Time to Tile!

- How to play:
 - I will put up a number on the board
 - On your smartboard, between the numbers, you will put any combination of the symbols:

$$+ - \times \div () ^2 ^3$$

- When your expression is evaluated, it should total the number on the smartboard



Time to Tile!

Example:

7

$$3 \times 7 - (12 + 2)$$



Round One

45

$$3 + 7 \times 12 \div 2$$



Group Activity

- Let's do a quick group activity
- You will be in groups of either three or four
- Find which member of your group will have the next birthday
 - That member will be in charge of reading the problem to the group and ensuring that everyone understands it



Group Activity

- The purpose of this activity is to discuss the problem
- The entire group will have one answer
- I will choose one member of the group to tell me what the group's answer is and be able to justify it
- You may not talk with people not in your group



Sheep and Shepherds

In a flock of sheep, there are 125 sheep and 5 dogs. How old is the shepherd?



Discussion

- What did we come up with?
- Why did I ask a question that had no answer?
- What will you need to do whenever you see complex problems that you need to solve?

Problem Solving

August 10/11, 2016

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Warmup

In your notebook, evaluate the following:

1) $4 \times (7 - 5)$ $4 \times 2 = 8$

2) $12 + 8 \div 2$ $12 + 4 = 16$

3) $5 \times 3 - 6 \div 3$

$15 - 6 \div 3$

$15 - 2 = 13$



Trade and Grade

- If you received a stamp, you will trade your homework with the person sitting next to you (or someone else near you)
- When you get another person's homework, write your name in the "Corrected By" line at the bottom
 - Please PRINT your real name



Trade and Grade

- You will check the first four answers of this homework (I will check the rest)
- If the answer is incorrect, draw a small line through the number of the problem

1) 36

2) 15

3) 18

4) 32



Trade and Grade

- For today, if they received a stamp, put a “4” in the box that says “Score” at the top of the page
- After today, to get “4” you will need to answer more than half of the problems correctly



Student Handbook Review

- Let's review pages 12–17



Sheep and Shepherds

- Yesterday, we worked on a problem that was unsolvable
- It's important to make sure that you understand what is going on with a problem before trying to solve it



Understanding Algebra

- Let's make a four-step plan for solving problems:
 - Understand
 - What do I know?
 - What do I need to find out?
 - Is there enough information? What information do I need?



Understanding Algebra

- Let's make a four-step plan for solving problems:
 - Plan
 - Identify important parts of a problem
 - Determine how the facts are related
 - Make a plan to solve the problem



Understanding Algebra

- Let's make a four-step plan for solving problems:
 - Solve
 - Use your plan to solve the problem
 - If the plan doesn't work, come up with a new one!



Understanding Algebra

- Let's make a four-step plan for solving problems:
 - Check
 - This is the step too many students skip!
 - Is your answer reasonable? (If the problem asks how tall a person is and you get an answer of 27 feet, something is wrong!)
 - Is there more than one solution?



Let's Try One Together

About how many times as great is the number of teens who use their cell phones to take pictures compared to the number who exchange videos?

3

| I use my cell phone to... | Number of Teens |
|-----------------------------|-----------------|
| Access social network sites | 46 |
| Exchange videos | 61 60 |
| Play games | 92 |
| Play music | 120 |
| Take pictures | 177 180 |



Understand

About how many times as great is the number of teens who use their cell phones to take pictures compared to the number who exchange videos?

| I use my cell phone to... | Number of Teens |
|-----------------------------|-----------------|
| Access social network sites | 46 |
| Exchange videos | 61 |
| Play games | 92 |
| Play music | 120 |
| Take pictures | 177 |



Our plan
is to divide

Plan

About how many times as great is the number of teens who use their cell phones to take pictures compared to the number who exchange videos?

| I use my cell phone to... | Number of Teens |
|-----------------------------|-----------------|
| Access social network sites | 46 |
| Exchange videos | 61 |
| Play games | 92 |
| Play music | 120 |
| Take pictures | 177 |



Solve

About how many times as great is the number of teens who use their cell phones to take pictures compared to the number who exchange videos? **3**

| I use my cell phone to... | Number of Teens |
|-----------------------------|--------------------|
| Access social network sites | 46 |
| Exchange videos | 61 60 |
| Play games | 92 |
| Play music | 120 |
| Take pictures | 177 180 |



$$61 \times \underline{3} = 183$$

Check

About how many times as great is the number of teens who use their cell phones to take pictures compared to the number who exchange videos?

| I use my cell phone to... | Number of Teens |
|-----------------------------|-----------------|
| Access social network sites | 46 |
| Exchange videos | 61 |
| Play games | 92 |
| Play music | 120 |
| Take pictures | 177 |



Now You Try

Work with your
shoulder partner:

About how many times
as many teens in the
survey use cell phones
to play games than to
access social network
sites?

2

| I use my cell phone to... | Number of Teens |
|-----------------------------|-------------------|
| Access social network sites | 46 50 |
| Exchange videos | 61 |
| Play games | 92 100 |
| Play music | 120 |
| Take pictures | 177 |



Working With a Group

- I will put you into groups of three or four
- Which member of your group has the most siblings? (In case of tie, do rock-paper-scissors)
 - That person will be in charge of reading the problem to the group and making sure everyone understands it



Thrill Rides

The tower of a free-fall ride at an amusement park is 251 feet tall. The ride begins to free-fall from 19 feet below the top of the tower. The brakes are applied 46 feet from the bottom. How long is the free-fall portion of the ride?