

# **Order of Operations**

**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



# 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
- No symbol may be used more than once



# 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?

# **Integers**

**August 10/11, 2016**

**Mr. Collin**



# Warmup

In your notebook, evaluate the following:

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

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

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

$$15 - 6 \div 3$$

$$15 - 2$$

$$13$$



# 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) 1

4) 18



# 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





# 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?



# What Is An Integer?

- An **integer** is any number that can be expressed without having to use a decimal or a fraction
- Integers can be **positive** (more than zero) or **negative** (less than zero)



# With Your Partner

- Come up with at least three examples of numbers that are integers  $0, 5, -2, 84$
- Come up with at least three examples of numbers that are not integers  $27.55, 5\frac{1}{2}, \frac{3}{4}, \frac{2}{5}, \pi$
- Come up with an example of a real-world situation in which you would use a negative integer



# Distance

- How do we say how far away two things are?
- Would we ever use a negative number to measure distance?
- We have a term for the positive value of a number





# Absolute Value

- The absolute value of a number is its positive value
  - Basically, if it's a negative number, ignore the negative sign
- What is the absolute value of  $-8$ ?
- What is the absolute value of  $11$ ?



# Absolute Value

- We mark absolute value by surrounding the number with vertical lines
- For example, if we want to say the absolute value of  $-7$ , we write it as  $|-7|$



# With a Partner

- This year, we will use the orange and green books on the shelf near the door
- I will give you a number – When I do, get the book that has this period and your number written on the binder
- That book will be yours all year (but you don't need to take it home)



# From the Book

- Turn to Page 192 (don't write anything yet)
- The person on the left will be in charge of reading out loud from the book until the first "Got It?" problem is reached
- When the person on the left is finished reading, the person on the right will restate it in their own words

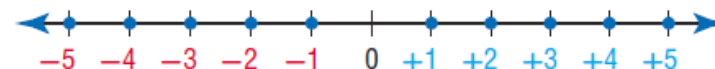


# What Does That Look Like?

## Identify and Graph Integers

**Negative integers** are integers less than zero. They are written with a  $-$  sign.

**Positive integers** are integers greater than zero. They can be written with a  $+$  sign.



Zero is neither negative nor positive.

Integers can be graphed on a number line. To **graph** an integer on the number line, draw a dot on the line at its location.

### Examples



Write an integer for each situation.

- 1.** an average temperature of 5 degrees below normal

Because it represents *below* normal, the integer is  $-5$ .

- 2.** an average rainfall of 5 inches above normal

Because it represents *above* normal, the integer is  $+5$  or  $5$ .

**Got It?** Do these problems to find out.



# From the Book

- When you get to the first “Got It?” problem, then you will both discuss what answer you will give, then write down the same answer in your books
- For the next set of problems, the roles switch



# From the Book

- Okay, now you try – you will complete pages 192 and 193
- When you are finished working on those together, then each of you will answer the eight problems on 194 by yourself
  - You may ask your partner for help, though



# Exit Ticket

Evaluate the following problem. Show all of your work on the exit ticket.

$$7 - |-4|$$



# **Integers**

**August 12, 2016**

**Mr. Collin**



# Warmup

In your notebook, evaluate the following:

$$1) \quad |5| + |7| \quad 5 + 7 = 12$$

$$2) \quad |-2| + |-3| \quad 2 + 3 = 5$$

$$3) \quad |-7| - |0| \quad 7 - 0 = 7$$

$$4) \quad |11| - |-2| \quad 11 - 2 = 9$$



# Trade and Grade

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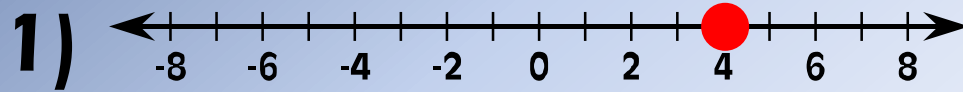


# Trade and Grade

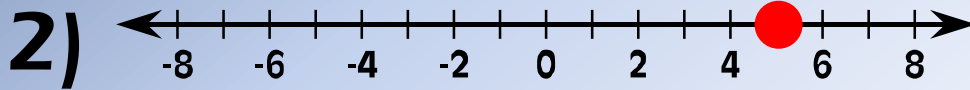
- If the answer is incorrect, draw a small line through the number of the problem



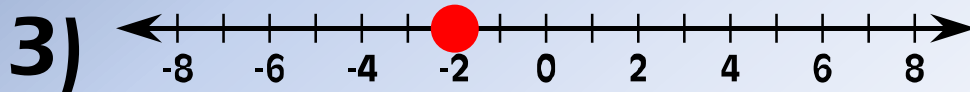
# Trade and Grade



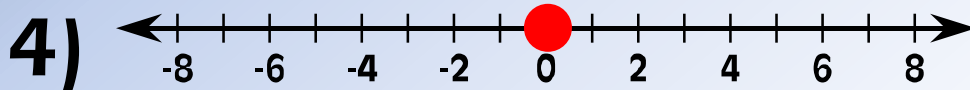
9) 0



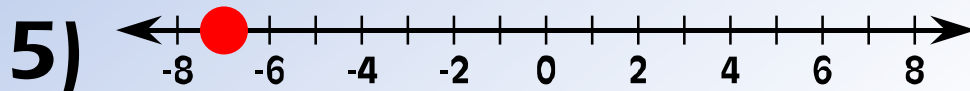
10) -6



11) 1



12) 2



13) 9

6) -1

14) 6

7) 8

15) 5

8) -3



# Trade and Grade

- If eight or more answers are correct and there is a stamp on the page, write “4” in the score box
- If seven or fewer answers are correct, then write “2” in the score box
- A reminder – if you don’t have a stamp, you need to show all work to receive late credit