

Math 7H - Unit 1b

Day 3 - Multiplying Integers

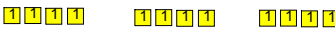
Lesson Objectives:

- I can use multiplication as it relates to distance.
- I can represent multiplication as a value model.
- I know the general rules for multiplying integers.
- I can evaluate expressions with positive integer exponents.

Multiplication is a fast way to add. Sometimes we say that is "repeated addition."

$$3(4) = 4 + 4 + 4$$

Three groups of 4




How would we talk about the following problems with repeated addition?

a. $5(1) = 5$ five groups of 1
 b. $2(-4) = -8$ two groups of -4
 c. $3(-5) = -15$ three groups of -5

We have learned that a negative sign can be read as "the opposite" of something.

$$-3(4) = -(4 + 4 + 4) = -4 + -4 + -4 = 3(-4)$$

The opposite of Three groups of 4 or Three groups of Negative Four



How would we talk about the following problems with repeated addition?

a. $-4(2) = -8$ The opposite of four groups of 2
 b. $-3(6) = -18$ The opposite of three groups of 6
 c. $-2(-5) = 10$ The opposite of two groups of -5

Do you see a pattern?

Directional Model

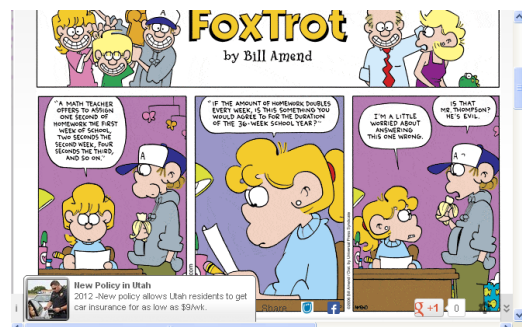
Sketch a picture of the following problems on a number line.

1. $4 * 2$
2. $2 * 2$
3. $3(-3)$
4. $2(-5)$
5. $-3 * 4$
6. $-1 * 2$
7. $-2 * (-3)$
8. $-4 * (-3)$

[Click here to open Geometer Sketchpad](#)

The product of two integers with the same sign is positive.

The product of two integers with different signs is negative.



base 5^2 exponent $= 5 \times 5 = 25$

Evaluate each expression.

1. 3^4

$3 \cdot 3 \cdot 3 \cdot 3 = 81$

2. 7^2

$7 \cdot 7 = 49$

3. $(-3)^2$

$-3 \cdot -3 = 9$

4. $(-2)^3$

$-2 \cdot -2 \cdot -2 = -8$

5. -8^2

$-(8 \cdot 8)$

$-(64) = -64$

6. -6^3

$-(6 \cdot 6 \cdot 6)$

$-(216) = -216$

Homework

1.4 pg 26 #3-24 (by 3s), 25-44, 49-53

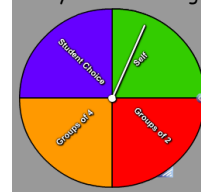
* Individual Think Time *



What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...



Attachments

Multiplication Models.gsp