Notes and Class Participation

Directions: Print this handout. Use this handout to take notes as you read pages 250 -262, watch the lecture video, and view the PowerPoint slides. After you complete this handout, scan pages 1-5, and attach them to Lesson 15 Class Participation Assignment. Hyperlinks are on page 5 and 6.

Section 5.2 Lecture Video   PowerPoint Slides

Multiply Integers Chip Model

Watch these videos of multiplication of integers using the chip model.   Video 1   Video 2

Model the following multiplication problems using the chip model for multiplication.

4 x 2

4 x (-2)

-4 x 2

-4 x (-2)

Multiply Integers Number Line

Watch these videos of multiplication of integers using the number line model.   Video 1   Video 2

Model the following multiplication problems using the number line model for multiplication.

> 5 x 2

> 5 x (-2)

> -5 x 2

> -5 x (-2)

Definition of Integer Multiplication

Write the formal definition of integer multiplication. See page 252 in the textbook.

Write a method for how you would teach a child how to multiply integers. Even though you are speaking to a child, make sure to use precise mathematical language. Watch this video to understand the formal rules for multiplying integers.

Properties of Integer Multiplication

Write the following properties of integer addition (See page 239):

For all integers a, b, and c...

1. Closure property of multiplication of integers

2. Commutative property of multiplication of integers

3. Associative property of multiplication of integers

4. Identity property of multiplication of integers

5. Distributive property of multiplication over addition

6. Zero property of multiplication of integers

7. $(-1)a =$

8. $(-a)b =$

9. $(-a)(-b) =$

10. $a(b - c) =$

11. $(b - c)a =$

12. $(a + b)(a - b) =$

Division Integers Chip Model

Model the following division problems using the chip model for division.

6 ÷ 2 State if you are using partitioning or repeated subtraction. Clearly show the answer.

6 ÷(-2) by using partitioning. Determine the "opposite of two groups out of 6 positive chips." Clearly show the answer.

-6 ÷ 2 by partitioning model for division. (Split -6 chips in to 2 equal groups.) Clearly show the answer.

-6 ÷ (-2) by using the repeated subtraction model for division. (Repeatedly subtract groups of -2 from -6. How many groups did you subtract?) Clearly show the answer.

Dividing Integers Number Line

Watch these videos for dividing integers using the number line model. Video 1   Video 2   Video 3

Model the following division problems using the number line model for division.

6 ÷ 3

-6 ÷ (3)

(-6) ÷ (-3)

(6) ÷ (-3)

Definition of Integer Division

Write the formal definition of integer multiplication. See page 259 in the textbook.

Write a method for how you would teach a child how to divide integers. Even though you are speaking to a child, make sure to use precise mathematical language. Watch this video to understand the formal rules for dividing integers.

Ordering Integers

Write the definition of less than for integers.

Put the following numbers in order from least to greatest. 10, -25, -15, 12, 8, -44

Review Terms:

Review terms from Section 5.2 by using flashcards found here. Select chapter 5 and then select section 2. Review the terms until you know them.

Hyperlinks

- Lecture video: https://mediaplayer.pearsoncmg.com/assets/BMT13_sl_0502
- PowerPoint slides: https://cwoer.ccbcmd.edu/math/math131/Lesson15Section5.2.ppsx
- Multiplying integers chip model video 1: http://www.youtube.com/embed/MuZ3Y3PYv2U?r=0
- Multiplying integers chip model video 2: http://www.youtube.com/embed/Yhoz1g35alw?r=0
- Multiplying integers line model video 1: http://www.youtube.com/embed/7nilZW9DtbU?r=0
- Multiplying integers line model video 2: http://www.youtube.com/embed/wGMLq2SnMkw?r=0

- Multiplying integers song: http://www.youtube.com/embed/6SNIr8jIkbs?r=0
- Dividing integers line model Video 1: https://www.youtube.com/embed/x3Ss-qY0Ewo?r=0
- Dividing integers line model Video 2: https://www.youtube.com/embed/vebnFtXv__w
- Dividing integers line model Video 3: https://www.youtube.com/embed/7DqrFrb-Pzo?r=0
- Division integer rules video: https://www.youtube.com/embed/o6zh558w8R4?r=0
- Flashcards:
  https://media.pearsoncmg.com/aw/aw_billstein_mathforteachers_13/flashcards/launch.html