

# Lesson 1.5:

## Dividing Integers

### Key Ideas

#### Dividing Integers with the Same Sign

**Words** The quotient of two integers with the same sign is positive.

**Numbers**  $8 \div 2 = 4$                        $-8 \div (-2) = 4$

#### Dividing Integers with Different Signs

**Words** The quotient of two integers with different signs is negative.

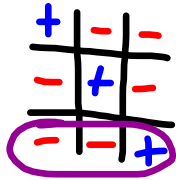
**Numbers**  $8 \div (-2) = -4$                        $-8 \div 2 = -4$

### 1.5 Notes

Get out your spiral notebooks!

+	-	-
-	+	-
-	-	+

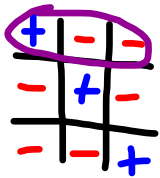
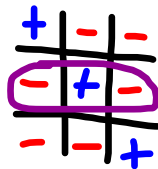
Still works!

Example 1:Find  $-18 \div (-6)$ .

3

Example 2:

Divide.

a.  $75 \div (-25)$ b.  $\frac{-54}{6}$ 

-3

-9

**Divide.**

1.  $14 \div 2$

7

2.  $-32 \div (-4)$

8

3.  $-40 \div (-8)$

5

4.  $0 \div (-6)$

$\frac{0}{k}$  0

5.  $\frac{-49}{7}$

-7

6.  $\frac{21}{-3}$

-7

\*0 is neither positive  
nor negative.

**Example 3:**

Evaluate  $10 - x^2 \div y$  when  $x = 8$  and  $y = -4$ . Plug and chug

$$10 - (8)^2 \div (-4)$$

$$10 - 64 \div (-4)$$

$$10 - (-16)$$

$$10 + 16$$

$$26$$

P  
E  
MD  
AS

Evaluate the expression when  $a = -18$  and  $b = -6$ .

7.  $\frac{a+6}{3}$

$$\frac{-18+6}{3}$$

$$\frac{-12}{3}$$

$$-4$$

8.  $\frac{b^2}{a} + 4$

$$\frac{(-6)^2}{-18} + 4$$

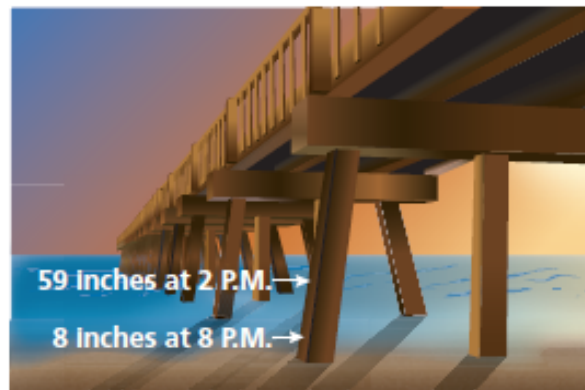
$$\frac{36}{-18} + 4$$

$$-2 + 4$$

$$2$$

#### Example 4:

You measure the height of the tide using the support beams of a pier. Your measurements are shown in the picture. What is the mean hourly change in the height?



\*Drops from 59 in to 8 in = -51 in

\*2PM to 8PM = 6 hours

$$\frac{-51}{6} = -8\frac{1}{2} \text{ in}$$

9. The height of the tide at the Bay of Fundy in New Brunswick decreases <sup>-36</sup>36 feet in 6 hours. What is the mean hourly change in the height?

$$\frac{-36}{6} = -6 \text{ ft}$$

**Exit Slip:**

How are the rules for multiplication and division of integers related?

Why?

Same rules!