

# Multiplying and Dividing Integers

 Guided Notes

## Rules for Multiplying Integers

### Rule 1:

If the integers have the same signs then the product will be positive.

$$(+)* (+) = (+)$$

$$(-)* (-) = (+)$$

### Rule 2:

If the integers have different signs then the product will be negative.

$$(-)* (+) = (-)$$

$$(+)* (-) = (-)$$

**Sample Problem 1:** Find the product of each expression below using the rules for multiplying integers.

a.  $14 * 2 =$

b.  $(-10) * (-4) =$

c.  $(-13) * (-13) =$

d.  $12 * 21 =$

**Sample Problem 2:** Find the product of each expression below using the rules for multiplying integers.

a.  $(-13) * 14 =$

b.  $18 * (-10) =$

c.  $(-7) * 22 =$

d.  $100 * (-10) =$

## Rules for Dividing Integers

### Rule 1:

If the integers have the same signs then the quotient will be positive.

$$(+)\div (+) = (+) \quad \text{or} \quad \frac{(+)}{(+)} = (+)$$

$$(-)\div (-) = (+) \quad \text{or} \quad \frac{(-)}{(-)} = (+)$$

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## Rule 2:

If the integers have different signs then the quotient will be negative.

$$(-) \div (+) = (-) \quad \text{or} \quad \frac{(-)}{(+)} = (-)$$

$$(+)\div(-) = (-) \quad \text{or} \quad \frac{(+)}{(-)} = (-)$$

**Sample Problem 3:** Find the quotient of each expression below using the rules for dividing integers.

a.  $234 \div 2 =$

b.  $(-1,000) \div (-4) =$

c.  $(-196) \div (-14) =$

d.  $\frac{-225}{-5} =$

**Sample Problem 4:** Find the quotient of each expression below using the rules for dividing integers.

a.  $(-432) \div 9 =$

b.  $2,025 \div (-45) =$

c.  $\frac{-216}{36} =$

d.  $1,024 \div (-16) =$

**Sample Problem 5:** Solve each expression below.

a.  $(-12) * (-140) \div 8 =$

b.  $128 \div 4 * (-14) =$

c.  $(-100) \div [20 \div (-10)]^2 =$

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## Combined operations on integers

**Sample Problem 6:** Solve each expression below using order of operations.

a.  $(-23) + [45 + (-15)] * (-14) - 8 =$

b.  $28 \div 4 + [225 \div (-5)] - (-24) =$

c.  $(-10) * [1,200 \div (-100)]^2 - [15 \div (-3)] =$