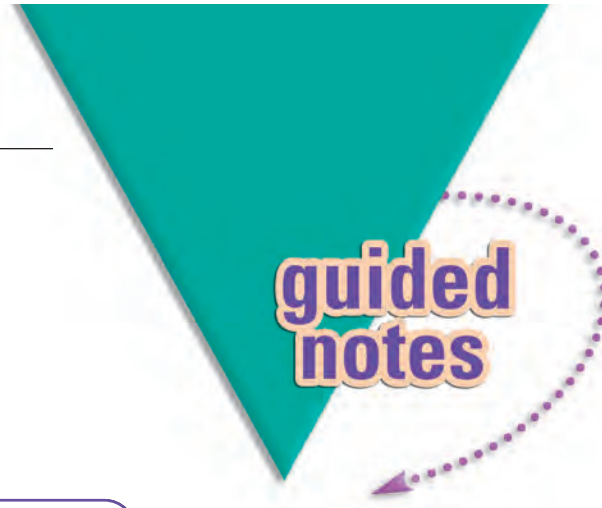


NAME _____

Module 1 Getting Ready for Algebra
Lesson 2 Simplifying Expressions with Integers



guided
notes

Lesson Objectives

- Add two or more integers.
- Subtract integers.
- Multiply two or more integers.
- Divide integers.

If the signs of the integers are the same:

- **Add** _____ the absolute values of the integers.
- Give the sum the same sign as the integers.

If the signs of the integers are different:

- **Subtract** _____ the absolute values of the integers.
- Give the sum the same sign as the integer with the **greater** _____ absolute value.

1 Simplify: $10 + (-3)$

7

2 Simplify: $-42 + (-8)$

-50

3 Simplify: $-15 + 7$

-8

4 Simplify: $12 + (-6) + 1 + (-7)$

0

Rule for Subtracting Integers

- Rewrite all integer subtraction problems as equivalent **addition** _____ problems.
- Remember that subtracting is the same as adding the **opposite** _____.

5 Simplify: $-3 - 9$

-12

6 Simplify: $25 - 40$

-15

7 Simplify: $12 - (-12)$

24

8 Simplify: $-6 - (-18)$

12

Rules

positive · positive = positive

positive · negative = negative

negative · positive = negative

negative · negative = positive

Rule for Multiplying Two Integers

- Multiply as if both factors are positive.
- If both factors have the same sign, the product is **positive**.
- If the factors have different signs, the product is **negative**.

9 Simplify: $(-9)(11)$

-99

10 Simplify: $(-4)(-2)$

8

11 Simplify: $(-10)(-6)(-2)$

-120

12 Simplify: $(5)(0)(-18)$

0

Rule for Dividing Two Integers

- Divide the absolute values.
- If both integers have the same sign, the quotient is **positive**.
- If the integers have different signs, the quotient is **negative**.

For any non-zero number a , $\frac{0}{a} = 0$.

For any number a , $\frac{a}{0}$ is **undefined**.

13 Simplify: $\frac{-25}{-5}$

5

14 Simplify: $-81 \div 9$

-9

15 Simplify: $\frac{160}{0}$

undefined