

Name: Key

Section 1-5: Adding and Subtracting Real Numbers

Objectives: 1) To find sums and differences of real numbers.

**Adding Real Numbers**

Add numbers with like signs

→ ADD their absolute values and keep the like sign.

Ex:  $3 + 4 = 7$                        $-3 + (-4) = -7$

Add numbers with different signs

→ SUBTRACT their absolute values and use the sign of the larger absolute value.

Ex:  $-3 + 4 = 1$                        $3 + (-4) = -1$

Property

**Inverse Property of Addition** - the sum of a number and its opposite equals zero.

Ex:  $-6 + 6 = 0$                        $12 + (-12) = 0$

**Problem 1 – Adding Real Numbers**

a)  $-12 + 7$

$-5$

b)  $-18 + (-2)$

$-20$

c)  $28 + (-28)$

$0$

d)  $11 + 5$

$16$

**Subtracting Real Numbers**

Subtraction means you need to

→ ADD the opposite of the number being subtracted.

Ex:  $3 - 5 = 3 + (-5) = -2$

$3 - (-5) = 3 + 5 = 8$

**Problem 2 – Subtracting Real Numbers**

a)  $-12 - 7$

$-19$

b)  $-18 - (-2)$

$-16$

c)  $17 - (-28)$

$45$

d)  $11 - 11$

$0$

$\begin{array}{r} 17 \\ 28 \\ \hline 5 \end{array}$

## Section 1-6: Multiplying and Dividing Real Numbers

Objectives: 1) To find products and quotients of real numbers.

### Multiplying Real Numbers

Multiply two positive or negative numbers results in a

→ positive number

Ex:  $3 \cdot 4 = 12$

$-3 \cdot (-4) = 12$

Multiply two numbers with different signs results in a

→ negative number

Ex:  $-3 \cdot 4 = -12$

$3 \cdot (-4) = -12$

### Property

**Inverse Property of Multiplication** – the product of a number and its inverse equals one.

Ex:  $5 \cdot \frac{1}{5} = 1$

$-\frac{1}{7} \cdot (-7) = 1$

### Problem 1 – Multiplying Real Numbers

b)  $-2 \cdot 7$

$-14$

b)  $-8 \cdot (-4)$

$32$

c)  $7 \cdot (-9)$

$-63$

d)  $11 \cdot 0$

$0$

### Dividing Real Numbers

Divide two positive or negative numbers results in a

→ positive number

Ex:  $12 \div 3 = 4$

$-\frac{20}{3} \div (-4) = \frac{5}{3}$

Divide two numbers with different signs results in a

→ negative number

Ex:  $-12 \div \frac{12}{3} = -3$

$12 \div (-4) = -3$

\*\*\*When dividing fractions, remember to change to multiplication and take the reciprocal of the second fraction\*\*\*

### Problem 2 – Dividing Real Numbers

b)  $-63 \div 7$

b)  $-18 \div (-2)$

c)  $\frac{28}{5} \div (-\frac{7}{2})$

d)  $10 \div 0$