

Chapter 2 Review

Adding Integers

$$7 + (-10) = -3$$

$$\underline{10} - 7 = 3$$

Same sign

add and keep the sign

$$7 + 4 = 11$$

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

different signs

subtract absolute values, keep sign of larger value

$$12 + (-4) = 8$$

$$\underline{12} - 4 = 8$$

- Integers

add the opposite

$$12 - (-4) = 16$$

$$12 + 4$$

$$-4 - (-8) = +4$$

$$-4 + 8$$

$$\underline{0} - 4 = 4$$

$$-4 - 7$$

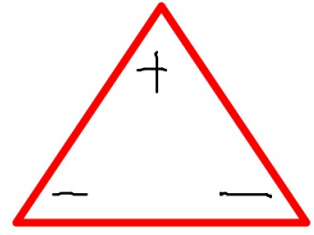
$$-4 + (-7) = -11$$

x / ÷ Integers

$$-22 \div (-2) = +11$$

same = positive
sign

different = negative
sign



$$-2 \times (-3) = +6$$

$$4 \div (-1) = -4$$

PROPERTIES OF ADDITION

Commutative

$$a + b = b + a$$

Associative

$$(a + b) + c = a + (b + c)$$

Identity

$$a + 0 = a$$

Inverse

$$a + (-a) = 0$$

PROPERTIES OF MULTIPLICATION

Commutative

$$ab = ba$$

Associative

$$(ab)c = a(bc)$$

Identity

$$a \cdot 1 = a$$

Zero

$$a \cdot 0 = 0$$

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

Inverse

$$a \cdot \frac{1}{a} = 1$$

PROPERTY OF DIVISION

$$a \div b = a \cdot \frac{1}{b}$$

Simplify / justify

$$\frac{4a + 32}{2}$$

$$(4a + 32) \div 2$$

division problem

$$(4a + 32) \cdot \frac{1}{2}$$

\div property

$$4a\left(\frac{1}{2}\right) + 32\left(\frac{1}{2}\right)$$

distributive property

$$2a + 16$$

multiply

Distributive Property

$$a(b+c) = ab + ac$$

$$4(2-3) = 4(2+(-3))$$

$$4(2) + 4(-3)$$

$$8 + (-12) = -4$$

$$\underline{12} - 8 = 4$$

$$(5y - 3)(-3y)$$

$$(5y + (-3))(-3y)$$

$$(5y)(-3y) + (-3)(-3y)$$

$$5 \cdot y \cdot (-3) \cdot y$$

$$-15y^2 + 9y$$

$$2(3a+7) + 3(-2a+1)$$

$$\underline{6a} + (-14) + \underline{(-6a)} + 3$$

$$\textcircled{-11}$$

$$-3(-2x+4) + 2(4x+1)$$

$$\underline{6x} + 12 + \underline{(-8x)} + (-2)$$

$$\textcircled{-2x + 10}$$

- 7 : integer, rational, real

$\sqrt{16}$: whole, integer, rational, real

$\sqrt{3}$: irrational, real

	whole	int	rat	irat	real
-7	y	y	y	n	y
$\sqrt{3}$	n	n	n	y	y