

# Division of Integers

# Division

Division and multiplication are opposite or inverse operations.

## Multiplication

$$(-6)(3)=-18$$

$$(6)(-3)=-18$$

$$(-6)(-3)=18$$

## Related Division Equations

$$-18\div 3=-6 \text{ or } -18\div -6=3$$

$$-18\div 6=-3 \text{ or } -18\div (-3)=6$$

$$18\div (-3)=-6 \text{ or } 18\div (-6)=-3$$

# Rules

The same rules apply to division as they do to multiplication.

$$+ \div + = +$$

$$- \div - = +$$

$$+ \div - = -$$

$$- \div + = -$$

# Division Rule

The division rule states the following:

Dividing by a number is the same as multiplying a number by its multiplicative inverse (or recipriocal)

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

For example

$$6 \div 3 = 6 \times \frac{1}{3}$$

$$2 = \frac{6}{1} \times \frac{1}{3}$$

$$2 = \frac{6}{3}$$

$$2 = 2$$

# Examples

$$56 \div 8 = 7$$

$$36 \div (-9) = -4$$

$$-56 \div (-8) = 7$$

$$(-36) \div (-9) = 4$$

$$10 \div (-2) = -5$$

$$0 \div 5 = 0$$

# Whiteboards

Try these:

$$15 \div (-5) = \square$$

$$-120 \div (-10) = \square$$

$$0 \div 0.5 = \square$$

$$540 \div (-90) = -\square$$