

Name: _____

Date: _____

Notes

Algebra Section 2.6

Pages 103-108



Goal: "You will divide real numbers"

Vocabulary:

Multiplicative Inverse: The reciprocal of a nonzero number a written $\frac{1}{a}$.

Property:

Inverse Property of Multiplication: The product of a nonzero number and its multiplicative Inverse is one.

Example:

The multiplicative inverse of $-\frac{1}{5}$ is -5 because $-\frac{1}{5} \cdot (-5) = 1$

The multiplicative inverse of $-\frac{6}{7}$ is $-\frac{7}{6}$ because $-\frac{6}{7} \cdot \left(-\frac{7}{6}\right) = 1$

Try These:

What is the multiplicative inverse of 7 ?

$$\frac{1}{7}$$

What is the multiplicative inverse of -8 ?

$$-\frac{1}{8}$$

What is the multiplicative inverse of $-\frac{2}{3}$?

$$-\frac{3}{2}$$

Dividing Positive and Negative Numbers:

Negative \div Negative = Positive

Negative \div Positive = Negative

Positive \div Negative = Negative

Examples:

$$-20 \div \left(-\frac{5}{3}\right) = 12$$

$$-\frac{3}{8} \div \frac{3}{10} = -1\frac{1}{4}$$

$$16 \div (-4) = -4$$

Try These:

$$-35 \div 7 = -5$$

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

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

$$-\frac{5}{2} \div (-7) = \frac{5}{14}$$

$$1.2 \div (-3) = -0.4$$

$$\frac{1}{2} \div (-4) = -\frac{1}{8}$$

$$7 \div (-2) = -3\frac{1}{2}$$

$$-4 \div (-8) = \frac{1}{2}$$

$$-\frac{3}{4} \div \left(-\frac{3}{8}\right) = 2$$

Finding the Mean:

Example: The table gives the daily minimum temperatures (in degrees Fahrenheit) in Barrow, Alaska, for the first 5 days of February 2004. Find the mean daily minimum temperature.

Day in February	1	2	3	4	5
Minimum Temperature (F°)	-21	-29	-39	-39	-22

$$\text{Mean: } \frac{-21+(-29)+(-39)+(-39)+(-22)}{5} = \frac{-150}{5} = -30^{\circ}\text{F}$$

Try This:

Find the mean maximum temperature (in degrees Fahrenheit) in Barrow, Alaska, for the first 5 days of February 2004.

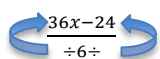
Day in February	1	2	3	4	5
Maximum Temperature (F°)	-3	-20	-21	-22	-18

$$-16.8^{\circ}\text{F}$$

Simplifying an Expression (Division):

$$\text{Example: } \frac{36x-24}{6} = \frac{1}{6}(36x - 24) = 6x - 4$$

*Note: Each term in the numerator is divided by the denominator.


$$\frac{36x-24}{\div 6 \div}$$

Try These:

$$\frac{20x+15}{5}$$

$$4x + 3$$

$$\frac{2x-8}{-4}$$

$$-\frac{1}{2}x + 2$$

$$\frac{-6y+18}{3}$$

$$-2y + 6$$

$$\frac{-10z-20}{-5}$$

$$2z + 4$$