1.0

MULTIPLYING AND DIVIDING POSITIVE AND NEGATIVE NUMBERS

RULES FOR MULTIPLYING INTEGERS

Multiply numbers like regular multiplication… however…

POSITIVE X POSITIVE = POSITIVE
POSITIVE X NEGATIVE = NEGATIVE
NEGATIVE X POSITIVE = NEGATIVE
NEGATIVE x NEGATIVE = POSITIVE

1) 2×-3

2) -5×4

3) -3×-7

4) -8×3

5) -6×-5

6) 12×-4

7) -1×-15

8) $3 \times -2 \times -4$

9) $-5 \times -8 \times -2$

PRACTICE

10) $-2(3.5)(-4)$

11) $\frac{1}{4}(-12)(3)$

Reciprocals

Where does the negative go?

$$-\frac{1}{6}$$

$$=\frac{-1}{6} \qquad =\frac{1}{-6}$$

Reciprocals

ANOTHER NAME IS THE MULTIPLICATIVE INVERSE

FIND THE RECIPROCALS OF THE FOLLOWING:

1) $\frac{3}{5}$

2) 6

3) $2\frac{3}{4}$

4) $-1\frac{2}{3}$

5) -1.3

Reciprocals

Special Property of reciprocals

$$\frac{3}{5} \times \frac{5}{3} = 1$$

Review

Simplify

1) $84 \div 12$

2) $1.2 \div 5$

3) $\frac{2}{3} \div 3$

4) $\frac{5}{8} \div \frac{1}{5}$

RULES FOR DIVIDING INTEGERS

Divide numbers like regular division… however…

POSITIVE ÷ POSITIVE = POSITIVE
POSITIVE ÷ NEGATIVE = NEGATIVE
NEGATIVE ÷ POSITIVE = NEGATIVE
NEGATIVE ÷ NEGATIVE = POSITIVE

1) $8 \div -4$

2) $-20 \div 4$

3) $-21 \div -7$

4) $-36 \div 3$

EXAMPLE 1

a) $-16 \div 4$

b) $18 \div (-3)$

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

d) $-16 \div \frac{8}{3}$

EXAMPLE 1

a) $-16 \div 4$

b) $18 \div (-3)$

EXAMPLE 1

$$\boldsymbol{c)}\ -20 \div \left(-\frac{5}{3}\right)$$

$$\boldsymbol{d)}\ -16 \div \frac{8}{3}$$

EXAMPLE 2

$$\boldsymbol{e)}\ -0.2 \div (-6)$$

$$\boldsymbol{f)}\ 2.4 \div (-0.06)$$

EXAMPLE 2

g) $16 \div \left(-1\frac{1}{3} \right)$

h) $\left(-\frac{1}{5} \right) \div (-6)$