

Dividing Integers

You already know how to multiply integers.

To multiply integers:

positive \times positive = positive
negative \times negative = positive
negative \times positive = negative
positive \times negative = negative

Dividing integers is exactly the same!

To divide integers:

positive \div positive = positive
negative \div negative = positive
negative \div positive = negative
positive \div negative = negative

Example 1:

Solve each equation.

a. $m = -32 \div 4$

The two integers have different signs. The quotient is **NEGATIVE**.

$$m = -32 \div 4$$

$$m = -8$$

b. $s = \frac{42}{-3}$

The two integers have different signs. The quotient is **NEGATIVE**.

$$s = \frac{42}{-3}$$

$$s = -14$$

$$c. \quad -40 \div -8 = n$$

The two integers have the same signs. The quotient is POSITIVE.

$$\begin{aligned} -40 \div -8 &= n \\ 5 &= n \end{aligned}$$

$$d. \quad 72 \div 9 = h$$

The two integers have the same signs. The quotient is POSITIVE.

$$8 = h$$

Example 2:

Evaluate $cd \div (-3)$ if $c = -5$ and $d = -9$.

$$\begin{aligned} cd \div (-3) &= -5(-9) \div (-3) && \text{Replace } c \text{ with } -5 \text{ and } d \text{ with } -9. \\ &= 45 \div (-3) && \text{The product of } -5 \text{ and } -9 \text{ is positive.} \\ &= -15 && \text{The quotient of } 45 \text{ and } -3 \text{ is negative.} \end{aligned}$$