

Dividing Fractions

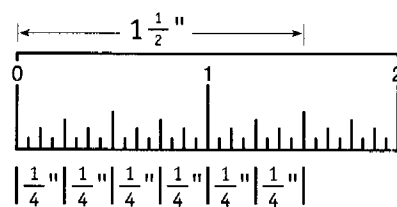
Dividing is finding out how many times one amount can be found in a second amount. This is also true with fractions.

To find out how many $\frac{1}{4}$ -inch-long sections are in a length of $1\frac{1}{2}$ inches, divide $1\frac{1}{2}$ by $\frac{1}{4}$.

As shown at the right, there are six $\frac{1}{4}$ s in $1\frac{1}{2}$.

Dividing fractions involves just one more step than multiplying fractions.

To divide by a fraction, invert the divisor (the number you're dividing by) and change the division sign to a multiplication sign. Then multiply.



$$1\frac{1}{2} \div \frac{1}{4} = 6$$

Inverting the Divisor

To **invert** means to turn a fraction upside down. When you invert a fraction, you switch the top and bottom numbers.

Inverting $\frac{2}{3}$

$$\frac{2}{3} \rightarrow \frac{3}{2}$$

Before inverting a divisor, be sure it is written as a proper or improper fraction.

- Change a whole-number divisor to a fraction by placing the whole number over 1.
- Change a mixed-number divisor to an improper fraction.

Type of Divisor	Example	Write the Divisor as a Fraction	Invert the Divisor and Change the Sign
proper fraction	$\frac{3}{4} \div \frac{7}{8}$	$\frac{3}{4} \div \frac{7}{8}$	$\frac{3}{4} \times \frac{8}{7}$
improper fraction	$\frac{3}{5} \div \frac{3}{2}$	$\frac{3}{5} \div \frac{3}{2}$	$\frac{3}{5} \times \frac{2}{3}$
whole number	$\frac{3}{8} \div 5$	$\frac{3}{8} \div \frac{5}{1}$	$\frac{3}{8} \times \frac{1}{5}$
mixed number	$\frac{15}{16} \div 2\frac{3}{8}$	$\frac{15}{16} \div \frac{19}{8}$	$\frac{15}{16} \times \frac{8}{19}$