Names (pair) _____ Date _____

Dividing a Fraction by a Fraction

Example



Same denominators: how many times does $\frac{2}{4}$ fit into $\frac{3}{4}$? One full group and half a group.

Count the pieces: 3 pieces in groups of 2.

$$\frac{3}{4} \div \frac{2}{4} = 3 \div 2 = 1\frac{1}{2}$$

Different denominators

First write the fractions with the same denominator, then divide the numerators. Or multiply by the reciprocal of the divisor:

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

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

1 ON YOUR OWN Same denominators. Circle the groups and divide the numerators.

a)



$$\frac{3}{5} \div \frac{1}{5} = 3 \div 1 = \square$$

b)



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

c)



$$\frac{6}{8} \div \frac{3}{8} = 6 \div 3 = \square$$

d)



$$\frac{5}{6} \div \frac{2}{6} = 5 \div 2 = \square \frac{\square}{\square}$$

e)



$$\frac{7}{10} \div \frac{3}{10} = 7 \div 3 = \square \frac{\square}{\square}$$

f)



$$\frac{2}{3} \div \frac{1}{3} = 2 \div 1 = \square$$

Names (group) _____ Date _____

2 IN PAIRS **Two ways.** One student uses the same denominator, the other multiplies by the reciprocal. Compare and swap roles.

Division	Same denominator	Reciprocal	Answer
$\frac{1}{2} \div \frac{1}{4}$	$\frac{\square}{\square} \div \frac{\square}{\square}$	$\frac{1}{2} \times \frac{\square}{\square}$	$\square$
$\frac{2}{3} \div \frac{1}{6}$	$\frac{\square}{\square} \div \frac{\square}{\square}$	$\frac{2}{3} \times \frac{\square}{\square}$	$\square$
$\frac{3}{4} \div \frac{3}{8}$	$\frac{\square}{\square} \div \frac{\square}{\square}$	$\frac{3}{4} \times \frac{\square}{\square}$	$\square$
$\frac{5}{6} \div \frac{1}{3}$	$\frac{\square}{\square} \div \frac{\square}{\square}$	$\frac{5}{6} \times \frac{\square}{\square}$	$\square\,\frac{\square}{\square}$
$\frac{1}{2} \div \frac{3}{4}$	$\frac{\square}{\square} \div \frac{\square}{\square}$	$\frac{1}{2} \times \frac{\square}{\square}$	$\frac{\square}{\square}$

3 ON YOUR OWN Divide. Simplify if you can.

$\frac{3}{5} \div \frac{2}{3} = \frac{3}{5} \times \frac{\square}{\square} = \square$

$\frac{4}{7} \div \frac{2}{7} = \frac{4}{7} \times \frac{\square}{\square} = \square$

$\frac{5}{8} \div \frac{3}{4} = \frac{5}{8} \times \frac{\square}{\square} = \square$

$\frac{2}{9} \div \frac{4}{9} = \frac{2}{9} \times \frac{\square}{\square} = \square$

$\frac{7}{10} \div \frac{1}{5} = \frac{7}{10} \times \frac{\square}{\square} = \square$

$\frac{3}{4} \div \frac{5}{6} = \frac{3}{4} \times \frac{\square}{\square} = \square$

4 IN A GROUP **Discuss.** When is the quotient of two fractions bigger than 1, and when is it smaller than 1? Look at task 2.

★ ON YOUR OWN **Exit card.** $\frac{5}{6} \div \frac{1}{3} = \square\,\frac{\square}{\square}$