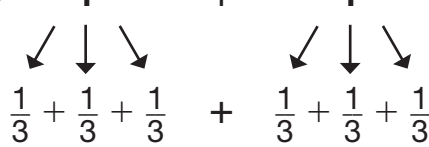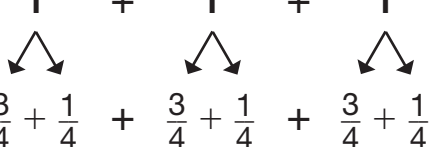# Dividing Whole Numbers by Unit Fractions

How can you divide a whole number by a fraction?

$2 \div \frac{1}{3}$	Think: How can I divide two into one-thirds?
1. Two is the sum of one plus one.	$2 = 1 + 1$
2. Each one is the sum of three one-thirds.	$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3}$
3. Count the number of one-thirds.	**6**
Check To divide a whole number by a fraction, multiply the whole number by the reciprocal of the fraction.	$2 \div \frac{1}{3} = 2 \times \frac{3}{1} = \frac{2}{1} \times \frac{3}{1} = \frac{6}{1} = 6$

$3 \div \frac{3}{4}$	Think: How can I divide three into three-fourths?
1. Three is the sum of one plus one plus one.	$3 = 1 + 1 + 1$
2. Each one is the sum of one three-fourths and one one-fourth.	$\frac{3}{4} + \frac{1}{4} + \frac{3}{4} + \frac{1}{4} + \frac{3}{4} + \frac{1}{4}$
	$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$
3. Count the number of three-fourths.	$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$
	4
Check Multiply the whole number by the reciprocal of the fraction.	$3 \div \frac{3}{4} = 3 \times \frac{4}{3} = \frac{3}{1} \times \frac{4}{3} = \frac{12}{3} = 4$

Draw a picture that shows each division and write the answer.

1. $2 \div \frac{1}{2}$ _____

2. $2 \div \frac{1}{3}$ _____

Dividing Whole Numbers by Unit Fractions

In **1** and **2**, use the picture to find each quotient.

1. How many thirds are in 1?

_____

2. How many thirds are in 7?

_____

In **3** and **4**, draw a picture to find each quotient.

3. $3 \div \frac{1}{2}$

4. $4 \div \frac{1}{8}$

_____   _____

In **5** and **6**, use multiplication to find each quotient.

5. $6 \div \frac{1}{3}$

6. $5 \div \frac{1}{10}$

_____   _____

7. Julie bought 3 yards of cloth to make holiday napkin rings. If she needs $\frac{3}{4}$ of a yard to make each ring, how many rings can she make?

_____

8. When you divide a whole number by a fraction with a numerator of 1, explain how you can find the quotient.

_____

_____

_____