

# Understand Equivalent Fractions

Name: \_\_\_\_\_

**Prerequisite: How do you know when fractions are equivalent?**



**Study the example showing one way to find equivalent fractions. Then solve problems 1–6.**

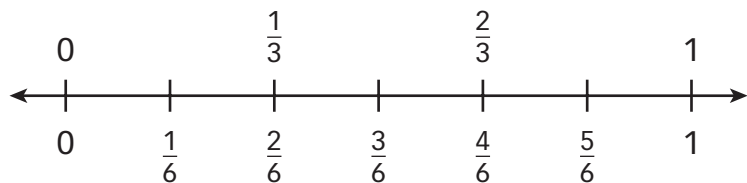
### Example

Find a fraction equivalent to  $\frac{4}{6}$ .

The number line shows both thirds and sixths.

$\frac{4}{6}$  and  $\frac{2}{3}$  are at the same point on the number line.

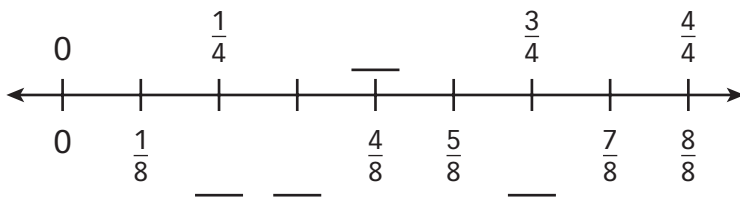
$$\frac{4}{6} = \frac{2}{3}$$



- 1** Look at the number line in the example above. Write a fraction equivalent to  $\frac{2}{6}$ .

$$\frac{2}{6} = \underline{\hspace{2cm}}$$

- 2** Fill in the missing fractions on the number line.



- 3** Look at the number line in problem 2.

Write equivalent fractions.

$$\frac{1}{4} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}} = \frac{4}{8} \quad \frac{3}{4} = \underline{\hspace{2cm}}$$

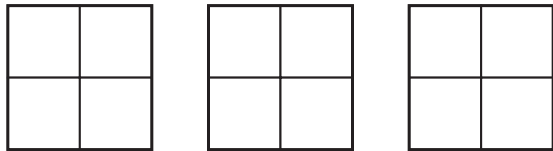


**Solve.**

- 4** Look at the models below. Shade the models to show two fractions equivalent to  $\frac{3}{4}$ . Then write the fractions.



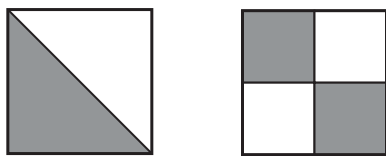
- 5** Use the models below to complete the sentences. The models show wholes and parts. There are 3 wholes, each divided into fourths.



Each part is \_\_\_\_\_ of a whole.

There are \_\_\_\_\_ fourths in all.  $\frac{\square}{\square} = 3$

- 6** Look at the models below. Write the fractions they represent. Are the fractions equivalent? Explain.




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## Show Equivalent Fractions

Study the example showing one way to model equivalent fractions. Then solve problems 1–8.

### Example

A model can show equivalent fractions.

The model has 5 equal parts. It shows  $\frac{3}{5}$ .



Divide the model into 10 equal parts to show an equivalent fraction.

The model shows  $\frac{6}{10}$ .

$$\frac{3}{5} = \frac{6}{10}$$



- 1 Divide the model below to show  $\frac{1}{2} = \frac{5}{10}$ .



- 2 Draw a model to show  $\frac{1}{6}$ . Then divide the model into twice as many parts to find an equivalent fraction.

$$\frac{1}{6} = \underline{\hspace{2cm}}$$

- 3 Multiply the numerator and denominator of  $\frac{1}{6}$  by 2.

$$\frac{1 \times 2}{6 \times 2} = \underline{\hspace{2cm}}$$

- 4 Why does it make sense that the fraction you wrote in problems 2 and 3 is the same?

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**Solve.**

- 5** Fill in the missing numbers to find two equivalent fractions to  $\frac{4}{5}$ .

$$\frac{4 \times \square}{5 \times 2} = \frac{\square}{10} \quad \frac{4 \times 20}{5 \times 20} = \frac{\square}{100}$$

- 6** Look at problem 5. Explain how  $\frac{8}{10} = \frac{80}{100}$ .

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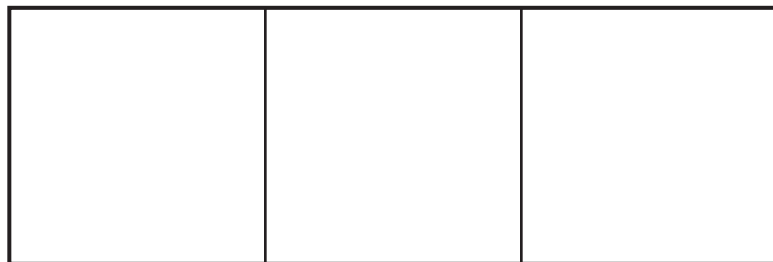
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- 7** Shade the model below to show  $\frac{1}{5}$ . Then show 10 equal parts and write an equivalent fraction.



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- 8** Shade the model below to show  $\frac{2}{3}$ . Then show 12 equal parts and write an equivalent fraction.



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## Reason and Write

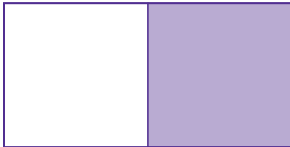
**Study the example. Underline two parts that you think make it a particularly good answer and a helpful example.**

**Example**

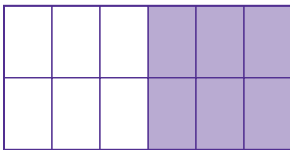
Find a fraction equivalent to  $\frac{1}{2}$  that has a denominator of 12.

**Show your work.** Use models, words, and numbers to explain your answer.

**I draw a model that shows  $\frac{1}{2}$ .**



**To find an equivalent fraction with a denominator of 12, I divide the model into 12 equal parts. The model shows  $\frac{6}{12}$ .**  
So  $\frac{1}{2} = \frac{6}{12}$ .

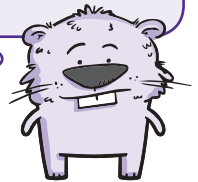


**I can also multiply both the numerator and denominator of  $\frac{1}{2}$  by 6 to find an equivalent fraction with a denominator of 12.**

$$\frac{1 \times 6}{2 \times 6} = \frac{6}{12}$$

Where does the example ...

- use models to show equivalent fractions?
- use numbers to write equivalent fractions?
- use words to explain?



**Solve the problem. Use what you learned from the example.**

Find a fraction equivalent to  $\frac{2}{5}$  that has a denominator of 20.

**Show your work.** Use models, words, and numbers to explain your answer.

Did you ...

- use models to show equivalent fractions?
- use numbers to write equivalent fractions?
- use words to explain?

