

NAME: \_\_\_\_\_



## Purpose

To understand variables in fraction multiplication problems

## Math Words

**of**  $\frac{1}{3}$  of 15 is 5.

\_\_\_\_\_

**three  
thirds of**

Three thirds of 15 is the whole amount, 15.

\_\_\_\_\_

**variable**

In the multiplication expression  $\frac{1}{3}n$ ,  $n$  is an unknown amount called a variable. We say "one third of a number."

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## Starter Problem

Think about what the problem means. Solve for  $n$ .

$$\frac{1}{3}n = 15$$

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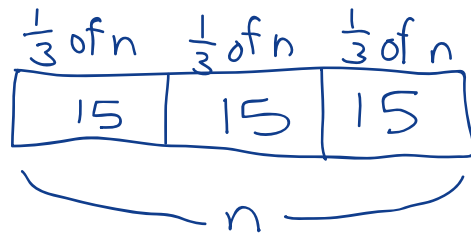
**Starter Problem**Think about what the problem means. Solve for  $n$ .

$$\frac{1}{3}n = 15$$

**Student Thinking**

Zoe

I know  $n$  stands for a number. One third of that number is equal to 15, so  $n$  is a lot greater than 15. If  $\frac{1}{3}$  of the number is 15, then  $\frac{3}{3}$  of the number is  $15 + 15 + 15$  or 45, so  $n$  is equal to 45. I can also multiply 3 times 15.



$$n = 3 \cdot 15$$

$$n = 45$$



Dave

This is easy. I have to find one third of 15. One third of 15 is 5, so  $n$  is 5.



$$\frac{1}{3} \times 15 = 5$$

**Things to Remember**

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## Our Turn

Solve for the variable. You may draw a picture to help you.

1.  $\frac{1}{4}n = 10$

2.  $6 = \frac{1}{2}n$

3.  $\frac{1}{3}x = 12$

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## My Turn

Solve for the variable. You may draw a picture to help you.

1.  $\frac{1}{2}n = 8$

2.  $10 = \frac{1}{5}x$

3.  $\frac{1}{4}n = 8$

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**Multiple Choice Mini Lesson**

Fill in the circle next to the answer you choose.

1.  $3 = \frac{1}{9}k$

☐ 3☐ 9☐ 12☐ 27

2.  $\frac{1}{5}$  of  $n = 20$

☐ 2☐ 20☐ 100☐ 200

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NAME:

**Writing Task Mini Lesson**

Explain how you know that 48 is the solution to  $\frac{1}{4}n = 12$ . You may draw a picture on the back to help you explain.

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NAME:

**Writing Task Mini Lesson**

Explain how you know that 48 is the solution to  $\frac{1}{4}n = 12$ . You may draw a picture on the back to help you explain.

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