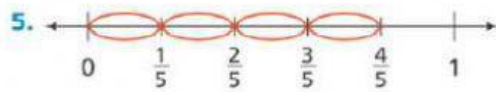


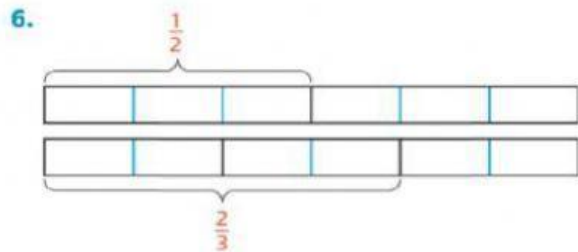
# Lesson 1-5 Divide Fractions by Fractions

## Do You Know How?

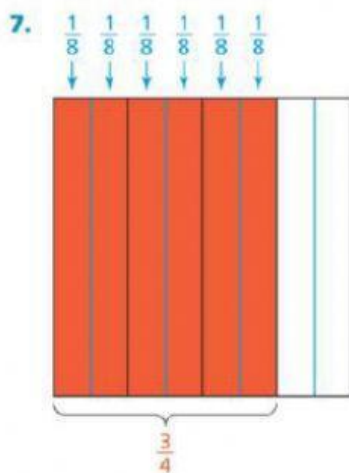
In 5–7, write a division sentence to represent each model.



$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \div \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}}$$



$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \div \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}}$$



$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \div \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}}$$

In 8–11, find each quotient.

8.  $\frac{3}{4} \div \frac{2}{3}$

$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \times \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}} \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$$

9.  $\frac{3}{12} \div \frac{1}{8}$

$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \times \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}}$$

10.  $\frac{1}{2} \div \frac{4}{5}$

$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \times \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}} \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$$

11.  $\frac{7}{10} \div \frac{2}{5}$

$$\frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} \times \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}} = \boxed{\phantom{00}} \frac{\boxed{\phantom{00}}}{\boxed{\phantom{00}}}$$

## Practice & Problem Solving

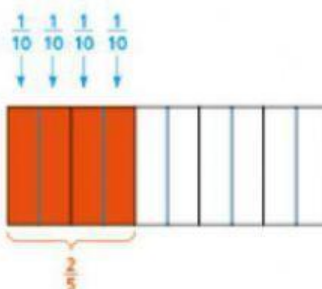


In 12 and 13, complete each division sentence using the models provided.

12.  $\frac{1}{3} \div \frac{1}{12} = \square$



13.  $\frac{2}{5} \div \frac{1}{10} = \square$



In 14–25, find each quotient.

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

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square$$

15.  $\frac{1}{2} \div \frac{1}{16}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square$$

16.  $\frac{1}{4} \div \frac{1}{12}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square$$

17.  $\frac{6}{7} \div \frac{3}{7}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square$$

18.  $\frac{5}{14} \div \frac{4}{7}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

19.  $\frac{5}{8} \div \frac{1}{2}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$

20.  $\frac{7}{12} \div \frac{3}{4}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

21.  $\frac{2}{7} \div \frac{1}{2}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square}$$

22.  $\frac{4}{9} \div \frac{2}{3}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

23.  $\frac{7}{12} \div \frac{1}{8}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$

24.  $\frac{3}{10} \div \frac{3}{5}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

25.  $\frac{2}{5} \div \frac{1}{8}$

$$\frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$

26. **Be Precise** A large bag contains  $\frac{12}{15}$  pound of granola. How many  $\frac{1}{3}$ -pound bags can be filled with this amount of granola? How much granola is left over?

$$\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$



27. **Higher Order Thinking** Find  $\frac{3}{5} \div \frac{2}{3}$ . Then draw a picture and write an explanation describing how to get the answer.

$$\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$

28. The area of a rectangular painting is  $\frac{1}{6}$  square yard. The width is  $\frac{2}{3}$  yard. What is the length of the painting? Use the formula  $A = \ell \times w$ .

$$L = A \div w$$

$$L = \frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

29. Solve for  $n$  in the equation  $\frac{13}{16} \div \frac{1}{6} = n$ .

$$n = \frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} \times \frac{\square}{\square} = \frac{\square}{\square} = \square \frac{\square}{\square}$$

30. **Model with Math** A cafeteria uses  $\frac{1}{6}$  pound of coffee to fill a large coffee dispenser. The cafeteria has  $\frac{2}{3}$  pound of coffee to use.

- b. Write a division sentence that describes the model and tells how many dispensers can be filled.

$$\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} = \square$$



31. **Model with Math** A full load for a small truck to haul is  $\frac{1}{2}$  ton of gravel. The truck is hauling  $\frac{1}{2}$  ton of gravel.

- a. Complete the model below to find how much of a full load the truck is hauling.
- b. Write a division sentence that describes the model and tells how much of a full load the truck is hauling.

$$\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square}$$



32. **Use Structure** How many  $\frac{1}{4}$ -inch pieces can be cut from a piece of metal  $\frac{5}{8}$  inch long?

$$\frac{\square}{\square} \div \frac{\square}{\square} = \frac{\square}{\square} = \frac{\square}{\square}$$

33. Write a problem that could be solved by finding  $\frac{5}{8} \div \frac{2}{3}$ .

## **Assessment Practice**

34. Which division sentence is shown by the model at the right?

- A)  $\frac{2}{3} \div \frac{1}{9} = 6$
- B)  $\frac{1}{9} \div \frac{2}{3} = \frac{1}{6}$
- C)  $6 \div \frac{1}{9} = 54$
- D)  $6 \div \frac{2}{3} = 9$

