



## SKILL 10: Multiplying Fractions

You can use a diagram to help you multiply a fraction by a fraction.

### Example 1

Multiply:  $\frac{1}{2} \times \frac{3}{4}$ .

Draw a diagram to show  $\frac{3}{4}$ .



Now shade  $\frac{1}{2}$  of the rectangle.



The area where the shaded regions overlap shows  $\frac{1}{2}$  of  $\frac{3}{4}$ .

So,  $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$ .

To multiply two fractions, write the product of the numerators over the product of the denominators. Check that your answer is in simplest form.

### Example 2

Find  $\frac{3}{8} \times \frac{2}{3}$  in simplest form.

$$\frac{3}{8} \times \frac{2}{3} = \frac{3 \times 2}{8 \times 3}$$

Multiply the numerators  
Multiply the denominators.

$$= \frac{6}{24}$$

Simplify.

$$= \frac{1}{4}$$

So,  $\frac{3}{8} \times \frac{2}{3} = \frac{1}{4}$ .

### Guided Practice

Find each product in simplest form. You may use a diagram if you like.



1.  $\frac{1}{2} \times \frac{5}{6} =$  \_\_\_\_\_

2.  $\frac{4}{5} \times \frac{2}{3} = \frac{\square}{\square} \times \frac{\square}{\square} =$  \_\_\_\_\_

3.  $\frac{5}{8} \times \frac{1}{2} = \frac{\square}{\square} \times \frac{\square}{\square} =$  \_\_\_\_\_

4.  $\frac{3}{7} \times \frac{1}{6} = \frac{\square}{\square} \times \frac{\square}{\square} =$  \_\_\_\_\_

5.  $\frac{3}{4} \times \frac{8}{9} = \frac{\square}{\square} \times \frac{\square}{\square} =$  \_\_\_\_\_

**SKILL 10: Practice**

Find each product in simplest form.

1.  $\frac{1}{2} \times \frac{2}{1} =$  \_\_\_\_\_

4.  $\frac{4}{1} \times \frac{2}{1} =$  \_\_\_\_\_

7.  $\frac{7}{1} \times \frac{2}{1} =$  \_\_\_\_\_

10.  $\frac{2}{1} \times \frac{13}{4} =$  \_\_\_\_\_

13.  $\frac{5}{2} \times \frac{5}{4} =$  \_\_\_\_\_

16.  $\frac{4}{3} \times \frac{2}{1} =$  \_\_\_\_\_

19.  $\frac{15}{11} \times \frac{10}{1} =$  \_\_\_\_\_

22.  $\frac{2}{1} \times \frac{7}{5} =$  \_\_\_\_\_

25.  $\frac{13}{12} \times \frac{10}{3} =$  \_\_\_\_\_

2.  $\frac{3}{2} \times \frac{10}{9} =$  \_\_\_\_\_

5.  $\frac{6}{5} \times \frac{3}{2} =$  \_\_\_\_\_

8.  $\frac{3}{2} \times \frac{9}{4} =$  \_\_\_\_\_

11.  $\frac{3}{1} \times \frac{7}{2} =$  \_\_\_\_\_

14.  $\frac{11}{1} \times \frac{5}{2} =$  \_\_\_\_\_

17.  $\frac{2}{1} \times \frac{15}{14} =$  \_\_\_\_\_

20.  $\frac{9}{8} \times \frac{7}{2} =$  \_\_\_\_\_

23.  $\frac{4}{3} \times \frac{3}{1} =$  \_\_\_\_\_

26.  $\frac{3}{2} \times \frac{3}{1} =$  \_\_\_\_\_

3.  $\frac{4}{1} \times \frac{5}{3} =$  \_\_\_\_\_

6.  $\frac{8}{5} \times \frac{9}{1} =$  \_\_\_\_\_

9.  $\frac{8}{5} \times \frac{8}{3} =$  \_\_\_\_\_

12.  $\frac{15}{13} \times \frac{4}{1} =$  \_\_\_\_\_

15.  $\frac{9}{7} \times \frac{11}{2} =$  \_\_\_\_\_

18.  $\frac{5}{1} \times \frac{3}{1} =$  \_\_\_\_\_

21.  $\frac{8}{7} \times \frac{14}{11} =$  \_\_\_\_\_

24.  $\frac{2}{1} \times \frac{8}{7} =$  \_\_\_\_\_

27.  $\frac{3}{2} \times \frac{9}{7} =$  \_\_\_\_\_

28. The total weight of all of the insects in the

world is about  $\frac{20}{7}$  billion tons. The total weight of all humans is about  $\frac{1}{3}$  of this amount.

Find the total weight of all humans.

29. A recipe for granola bars calls for  $\frac{3}{2}$  cup of oats. How much of the oats would you use to make  $\frac{1}{2}$  of the amount in the original recipe?30. Multiply:  $\frac{9}{8} \times \frac{10}{3}$ 

A  $\frac{9}{2}$

B  $\frac{15}{4}$

C  $\frac{90}{11}$

D  $\frac{27}{80}$

Skill 10

31. Which is the best estimate

of  $\frac{1}{8} \times 2\frac{7}{9}$ ?

F 2

G 4

H 6

J 8

Skill 9