

Additional Practice 8-6

Area of a Rectangle

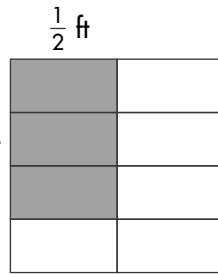
Another Look!

Cole wants to cover the back of a picture frame with colorful paper. What is the area of the back of Cole's picture frame?

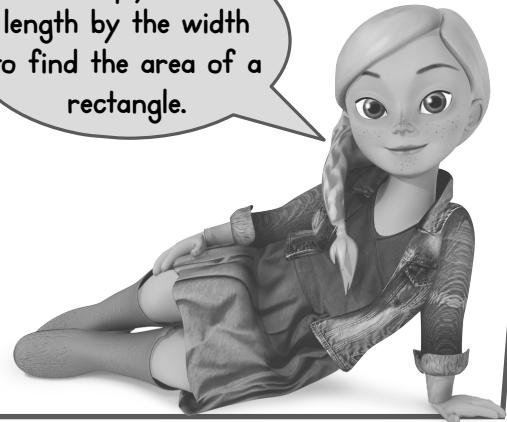
Multiply to find the area of the back of the picture frame.

$$A = \frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$$

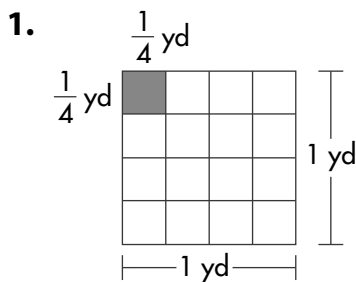
The area of the back of Cole's picture frame is $\frac{3}{8}$ square foot.



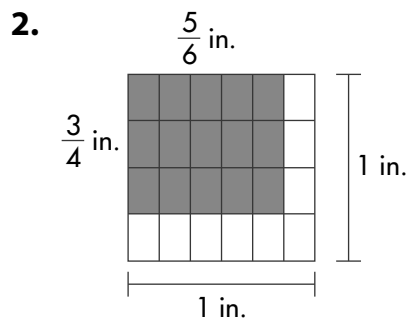
Multiply the length by the width to find the area of a rectangle.



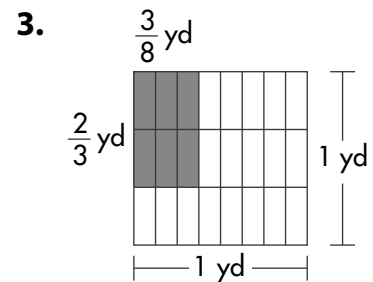
In 1–5, find each area.



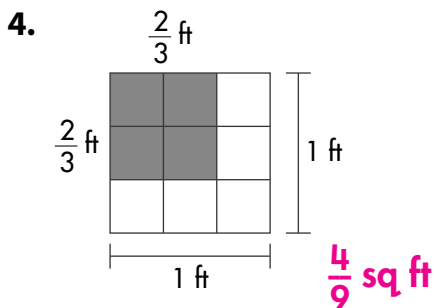
$$\frac{1}{4} \times \frac{1}{4} = \frac{1}{16} \text{ sq yd}$$



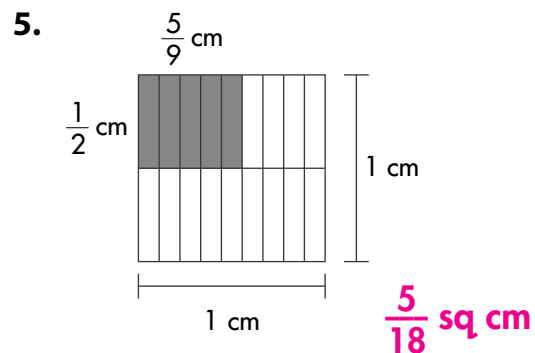
$$\frac{3}{4} \times \frac{5}{6} = \frac{15}{24} = \frac{5}{8} \text{ sq in.}$$



$$\frac{2}{3} \times \frac{3}{8} = \frac{6}{24} = \frac{1}{4} \text{ sq yd}$$



$$\frac{4}{9} \text{ sq ft}$$



$$\frac{5}{18} \text{ sq cm}$$

6. Find the area of a square with side length $\frac{3}{4}$ yard.

$$\frac{9}{16} \text{ sq yd}$$

7. Find the area of a rectangle with side lengths $\frac{5}{4}$ feet and $\frac{5}{3}$ feet.

$$\frac{25}{12} \text{ or } 2\frac{1}{12} \text{ sq ft}$$

8. Find the area of a square with side length $\frac{7}{12}$ inch.

$$\frac{49}{144} \text{ sq in.}$$



9. A crate is $\frac{3}{4}$ yard long and $\frac{2}{3}$ yard wide. The crate is also 2 feet tall. What is the area of the top of the crate?

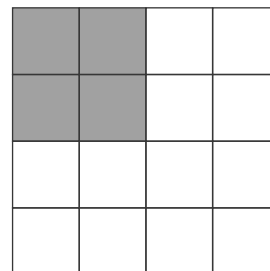
$\frac{1}{2}$ sq yd

10. Mike is making macaroni salad. For each bowl of macaroni salad, he needs $\frac{1}{3}$ cup of macaroni. How many cups of macaroni will he use if he makes 27 bowls of macaroni salad?

9 cups of macaroni

11. **Higher Order Thinking** Dorothy is installing purple and white tile in her kitchen. She made a diagram of the layout showing the area of both colors. Write two expressions that describe the area of the purple tile.

Sample answer: $\frac{1}{2} \times \frac{1}{2}$ and $\frac{2}{4} \times \frac{2}{4}$



12. **Construct Arguments** Corey and Veronica each multiplied $\frac{1}{2} \times \frac{5}{2}$. Corey got $\frac{6}{4}$ and Veronica got $\frac{5}{4}$. Which student found the correct answer? Explain.

Veronica; Sample explanation: Corey added the numerators and denominators instead of multiplying them.

13. Colby attends barber school. So far, he has completed 612 hours. If Colby attended school the same number of hours each day for a total of 68 days, how many hours did he attend school each day? 9 hours; $612 \div 68 = 9$

Assessment Practice

14. Tomás found the area of a rectangle to be $\frac{1}{6}$ square inch. Which could be the side lengths of the rectangle?

- (A) $\frac{1}{4}$ inch and $\frac{2}{3}$ inch
- (B) $\frac{1}{3}$ inch and $\frac{1}{3}$ inch
- (C) $\frac{1}{6}$ inch and $\frac{1}{6}$ inch
- (D) $\frac{1}{2}$ inch and $\frac{1}{12}$ inch

15. Jackie found the area of a square to be $\frac{25}{16}$ square feet. Which shows the side length of the square?

- (A) $\frac{5}{4}$ feet
- (B) $\frac{5}{8}$ foot
- (C) $\frac{5}{16}$ foot
- (D) $\frac{25}{4}$ feet