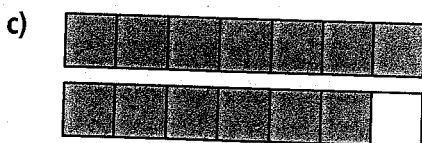
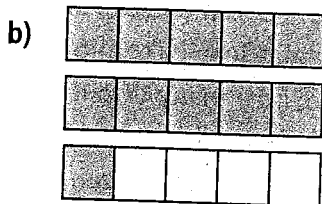
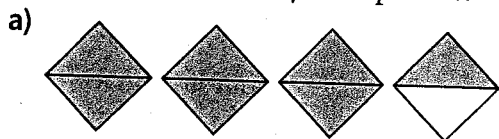


Practice

Check

4. Write the mixed number and improper fraction represented by each picture.



5. Write each mixed number as an improper fraction.

- a) $2\frac{3}{10}$ b) $4\frac{1}{8}$ c) $3\frac{5}{6}$
 d) $1\frac{2}{3}$ e) $3\frac{2}{5}$ f) $5\frac{1}{2}$
 g) $2\frac{4}{7}$ h) $3\frac{5}{9}$ i) $6\frac{2}{3}$

6. Write each improper fraction as a mixed number.

- a) $\frac{11}{3}$ b) $\frac{15}{4}$ c) $\frac{21}{5}$
 d) $\frac{11}{8}$ e) $\frac{19}{6}$ f) $\frac{31}{7}$
 g) $\frac{11}{2}$ h) $\frac{43}{10}$ i) $\frac{37}{8}$

7. Use estimation. Which number is each product closer to?

- a) $2\frac{1}{8} \times 3\frac{3}{4}$ 6 or 8
 b) $3\frac{5}{9} \times 1\frac{5}{6}$ 6 or 8
 c) $7\frac{3}{8} \times 2\frac{4}{5}$ 21 or 24
 d) $4\frac{7}{9} \times 3\frac{5}{12}$ 15 or 20

8. Multiply: $3\frac{3}{5} \times 2\frac{2}{9}$

- a) Estimate the product.
 b) Write each mixed number as an improper fraction.
 c) Multiply the improper fractions. Simplify first.
 d) Is the product reasonable? How do you know?

Apply

9. Multiply. Estimate to check the product is reasonable.

- a) $3 \times 2\frac{1}{4}$ b) $4 \times 2\frac{1}{8}$
 c) $1\frac{2}{3} \times 2$ d) $3\frac{1}{5} \times 3$

10. Use an area model to find each product.

- a) $1\frac{1}{2} \times 1\frac{1}{3}$ b) $2\frac{3}{4} \times 2\frac{2}{3}$
 c) $1\frac{1}{5} \times 3\frac{1}{3}$ d) $1\frac{1}{2} \times 2\frac{2}{5}$

11. Use improper fractions to find each product. Estimate to check the product is reasonable.

- a) $1\frac{7}{8} \times 2\frac{2}{3}$ b) $4\frac{1}{6} \times 3\frac{2}{5}$
 c) $2\frac{3}{7} \times 1\frac{5}{9}$ d) $3\frac{1}{2} \times 2\frac{2}{7}$
 e) $2\frac{1}{4} \times 2\frac{2}{3}$ f) $1\frac{4}{5} \times 2\frac{1}{3}$

12. Multiply. Estimate to check the product is reasonable.

- a) $1\frac{3}{4} \times 2\frac{1}{2}$ b) $3\frac{2}{3} \times 2\frac{1}{5}$
 c) $4\frac{3}{8} \times 1\frac{1}{4}$ d) $3\frac{3}{4} \times 3\frac{3}{4}$
 e) $4\frac{3}{10} \times \frac{4}{5}$ f) $\frac{7}{8} \times 2\frac{3}{5}$

- 13.** A restaurant in Richmond, BC, lists the prices on its menu in fractions of a dollar. Three friends have lunch at the restaurant. Each of 3 friends orders a veggie mushroom cheddar burger for $11\frac{3}{4}$, with a glass of water to drink.
- What was the total bill before taxes, in fractions of a dollar?
 - What was the total bill before taxes, in dollars and cents?
- 14.** During the school year, the swim team practises $2\frac{3}{4}$ h per week. During the summer, the weekly practice time is increased to $2\frac{1}{3}$ times the school-year practice time. How many hours per week does the team practise during the summer?
- 15.** Write a story problem that can be represented by the expression $3\frac{1}{2} \times 2\frac{1}{8}$. Solve your problem. Trade problems with a classmate. Solve your classmate's problem. Check to see that your solutions are the same.
- 16.** In a baseball game, the starting pitcher for the home team pitched $4\frac{2}{3}$ innings. The starting pitcher for the visiting team pitched $1\frac{1}{2}$ times as many innings. How many innings did the visiting team's pitcher pitch?
- 17. Assessment Focus** Students baked cookies for a charity bake sale. Elsa baked $2\frac{1}{2}$ dozen cookies. Layton baked $2\frac{1}{6}$ times as many cookies as Elsa. Meghan and Josh together baked $5\frac{1}{3}$ times the number of cookies that Elsa baked.
- Estimate. About how many dozen cookies did Layton bake? About how many dozen cookies did Meghan and Josh bake altogether?
 - Calculate how many dozen cookies Layton baked.
 - Calculate how many dozen cookies Meghan and Josh baked.
 - How many dozen cookies did these 4 students bake altogether?
 - How many cookies did these 4 students bake altogether? Show your work.
- 18. Take It Further** Use estimation. Which expression below has the greatest product? The least product? How do you know?
- $\frac{4}{3} \times \frac{8}{6}$
 - $2\frac{1}{8} \times 1\frac{1}{5}$
 - $1\frac{3}{8} \times \frac{9}{4}$
 - $\frac{7}{2} \times 2\frac{3}{10}$
- 19. Take It Further** Multiply. Estimate to check the product is reasonable.
- $2\frac{4}{9} \times 2\frac{2}{3} \times 2\frac{1}{2}$
 - $3\frac{3}{5} \times 2\frac{3}{4} \times 1\frac{1}{4}$
 - $4\frac{3}{8} \times 1\frac{1}{5} \times 2\frac{1}{4}$

Reflect

Describe 2 strategies you can use to multiply $3\frac{1}{2} \times 5\frac{1}{4}$. Which strategy do you prefer? Why?