

**Practice: Second Try**

Write cross products for each proportion. Multiply to check.

1.  $\frac{1}{10} = \frac{4}{40}$

2.  $\frac{20}{24} = \frac{5}{6}$

3.  $\frac{2}{7} = \frac{18}{63}$

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

5.  $\frac{72}{81} = \frac{8}{9}$

6.  $\frac{15}{25} = \frac{6}{10}$

7.  $\frac{5}{20} = \frac{2}{8}$

8.  $\frac{32}{16} = \frac{8}{4}$

9.  $\frac{4}{15} = \frac{12}{45}$

10.  $\frac{30}{100} = \frac{6}{20}$

11.  $\frac{7}{42} = \frac{42}{252}$

12.  $\frac{2}{5} = \frac{6}{15}$

Solve each proportion.

13.  $\frac{3}{6} = \frac{c}{24}$

14.  $\frac{9}{24} = \frac{3}{p}$

15.  $\frac{x}{9} = \frac{6}{54}$

16.  $\frac{k}{28} = \frac{18}{42}$

17.  $\frac{1}{y} = \frac{30}{90}$

18.  $\frac{4}{6} = \frac{6}{a}$

19.  $\frac{z}{10} = \frac{45}{50}$

20.  $\frac{1}{h} = \frac{5}{30}$

21.  $\frac{6}{20} = \frac{d}{100}$

22.  $\frac{8}{8} = \frac{5}{m}$

23.  $\frac{24}{w} = \frac{2}{3}$

24.  $\frac{45}{75} = \frac{r}{5}$

25.  $\frac{4}{v} = \frac{12}{15}$

26.  $\frac{1}{8} = \frac{n}{16}$

27.  $\frac{a}{2} = \frac{7}{14}$

28.  $\frac{4}{3} = \frac{m}{12}$

**Extend Your Skills**

29. Use cross products to tell whether you can write a proportion using the ratios  $\frac{4}{7}$  and  $\frac{12}{21}$ . Show your work.

30. Trevor's recipe calls for 3 cups of flour and 2 cups of sugar. He is making a larger batch and using 9 cups of flour and 4 cups of sugar.

Use cross products to tell whether the ratios  $\frac{3}{2}$  and  $\frac{9}{4}$  are in proportion. Show your work.

**Puzzle**

Solve each proportion. If the answer is an even number, write the letter in the proportion on the line below. Continue solving the proportions and writing the letters of even answers, in order, on the lines below. You will form the French word for *number*.

a.  $\frac{4}{5} = \frac{n}{20}$

b.  $\frac{2}{7} = \frac{6}{u}$

c.  $\frac{8}{o} = \frac{16}{20}$

d.  $\frac{m}{9} = \frac{20}{45}$

e.  $\frac{1}{8} = \frac{e}{56}$

f.  $\frac{6}{3} = \frac{18}{r}$

g.  $\frac{3}{b} = \frac{33}{88}$

h.  $\frac{3}{4} = \frac{e}{20}$

i.  $\frac{7}{2} = \frac{r}{4}$

j.  $\frac{u}{2} = \frac{27}{6}$

k.  $\frac{s}{5} = \frac{8}{8}$

l.  $\frac{36}{e} = \frac{3}{2}$

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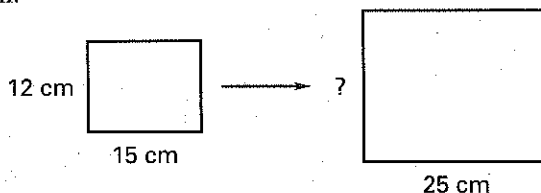
### Practice: Second Try

Use a proportion to solve each problem.

1. Tara walks a 2 mile route through her neighborhood for daily exercise. It takes her 30 minutes. At this rate, how far can Tara walk in 45 minutes?
2. An infant daycare requires 1 teacher for every 4 children. How many teachers are required for 20 children?
3. To make purple frosting, you start with white frosting. Then you add 2 drops of red food coloring and 3 drops of blue food coloring. If 4 red drops come out with the first squeeze, how many blue drops should you add?
4. Arlen delivers 28 newspapers each morning. The route takes him 40 minutes. If his route increases to 35 newspapers, how long will it take him?
5. On a map, 1 inch represents 50 miles. You measure the distance on the map between two towns as  $3\frac{1}{2}$  inches. How many miles apart are the two towns?
6. Kelsey earns \$5 walking her neighbors' dogs twice a week. At this rate, how much should Kelsey earn if she walks the dogs 6 days each week?
7. Jeff drove the first 200 miles of a trip in 3 hours. At this rate, how long will the 500 mile trip take, with no stops?

### Extend Your Skills

8. Lisa types 6 pages in 36 minutes. Frank types 5 pages in 30 minutes. Do they type at the same rate? Use a proportion to explain.
9. Mr. Nance is going to enlarge a worksheet on a photocopier. Using the measurements shown on the diagram, write and solve a proportion to determine the length of the new worksheet.
10. If Mr. Nance wants to shrink the length of the worksheet from 12 cm to 4 cm, what should the width be so that the worksheet's proportion remains the same?



3. RATIO PROPORTION  
5. Problem Solving

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### Puzzle

Use the given proportion to complete each of the related proportions.

$$\frac{\text{smiley face}}{\text{moon}} = \frac{\text{heart}}{\text{star}}$$

a.  $\frac{\text{moon}}{\text{smiley face}} = \frac{\quad}{\quad}$

b.  $\frac{\text{smiley face}}{\text{heart}} = \frac{\quad}{\quad}$

c.  $\frac{\text{star}}{\text{heart}} = \frac{\quad}{\quad}$