

Lesson Check

Do you know HOW?

Solve each proportion.

1. $\frac{b}{6} = \frac{4}{5}$

2. $\frac{5}{9} = \frac{15}{x}$

3. $\frac{w+3}{4} = \frac{w}{2}$

4. $\frac{3}{x+1} = \frac{1}{2}$

5. **Music** A band went to a recording studio and recorded 4 songs in 3 h. How long would it take the band to record 9 songs if they record at the same rate?

Do you UNDERSTAND?

Vocabulary Use the proportion $\frac{m}{n} = \frac{p}{q}$. Identify the following.

- the extremes
- the means
- the cross products

9. **Reasoning** When solving $\frac{x}{5} = \frac{3}{4}$, Lisa's first step was to write $4x = 5(3)$. Jen's first step was to write $20\left(\frac{x}{5}\right) = 20\left(\frac{3}{4}\right)$. Will both methods work? Explain.

Practice and Problem-Solving Exercises

Practice

Solve each proportion using the Multiplication Property of Equality.

10. $\frac{q}{8} = \frac{4}{5}$

11. $\frac{-3}{4} = \frac{x}{26}$

12. $\frac{3}{4} = \frac{x}{5}$

14. $\frac{3}{16} = \frac{x}{12}$

15. $\frac{9}{2} = \frac{k}{25}$

16. $\frac{x}{120} = \frac{1}{24}$

13. $\frac{m}{7} = \frac{3}{5}$

17. $\frac{2}{15} = \frac{h}{125}$

See Problem 1.

Solve each proportion using the Cross Products Property.

18. $\frac{3}{v} = \frac{8}{13}$

19. $\frac{15}{a} = \frac{3}{2}$

20. $\frac{3}{8} = \frac{30}{m}$

21. $\frac{2}{7} = \frac{4}{d}$

22. $\frac{-9}{b} = \frac{5}{6}$

23. $\frac{8}{p} = \frac{3}{10}$

24. $\frac{-3}{4} = \frac{m}{22}$

25. $\frac{2}{-5} = \frac{6}{t}$

See Problem 2.

Solve each proportion using any method.

26. $\frac{a-2}{9} = \frac{2}{3}$

27. $\frac{b+4}{5} = \frac{7}{4}$

28. $\frac{3}{7} = \frac{c+4}{35}$

29. $\frac{2c}{11} = \frac{c-3}{4}$

30. $\frac{7}{k-2} = \frac{5}{8}$

31. $\frac{3}{3b+4} = \frac{2}{b-4}$

32. $\frac{q+2}{5} = \frac{2q-11}{7}$

33. $\frac{c+1}{c-2} = \frac{4}{7}$

See Problem 3.

34. **Gardening** A gardener is transplanting flowers into a flowerbed. She has been working for an hour and has transplanted 14 flowers. She has 35 more flowers to transplant. If she works at the same rate, how many more hours will it take her?

See Problem 4.

35. **Florists** A florist is making centerpieces. He uses 2 dozen roses for every 5 centerpieces. How many dozens of roses will he need to make 20 centerpieces?
36. **Picnics** If 5 lb of pasta salad serves 14 people, how much pasta salad should you bring to a picnic with 49 people?