5.4 Exercises

FOR EXTRA HELP

Addison-Wesley Math Tutor Center | MathXL | Video Lectures on CD | Student's Solutions Manual | MyMathLab | Interactmath.com

Find the unknown number in each proportion. Round your answers to hundredths, if necessary. Check your answers by finding the cross products. See Examples 1 and 2.

1. $\frac{1}{3} = \frac{x}{12}$

2. $\frac{x}{6} = \frac{15}{18}$

3. $\frac{15}{10} = \frac{3}{x}$

4. $\frac{5}{x} = \frac{20}{8}$

5. $\frac{x}{11} = \frac{32}{4}$

6. $\frac{12}{9} = \frac{8}{x}$

7. $\frac{42}{x} = \frac{18}{39}$

8. $\frac{49}{x} = \frac{14}{18}$

9. $\frac{x}{25} = \frac{4}{20}$

10. $\frac{6}{x} = \frac{4}{8}$

11. $\frac{8}{x} = \frac{24}{30}$

12. $\frac{32}{5} = \frac{x}{10}$

13. $\frac{99}{55} = \frac{44}{x}$

14. $\frac{x}{12} = \frac{101}{147}$

15. $\frac{0.7}{9.8} = \frac{3.6}{x}$

16. $\frac{x}{3.6} = \frac{4.5}{6}$

17. $\frac{250}{24.8} = \frac{x}{1.75}$

18. $\frac{4.75}{17} = \frac{43}{x}$

Find the unknown number in each proportion. Write your answers as whole or mixed numbers when possible. See Example 2.

19. $\dfrac{15}{1\frac{2}{3}} = \dfrac{9}{x}$

20. $\dfrac{x}{\frac{3}{10}} = \dfrac{2\frac{2}{9}}{1}$

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

22. $\dfrac{1\frac{5}{6}}{x} = \dfrac{\frac{3}{14}}{\frac{6}{7}}$

Solve each proportion two different ways. First change all the numbers to decimal form and solve. Then change all the numbers to fraction form and solve; write your answers in lowest terms.

23. $\dfrac{\frac{1}{2}}{x} = \dfrac{2}{0.8}$

24. $\dfrac{\frac{3}{20}}{0.1} = \dfrac{0.03}{x}$

25. $\dfrac{x}{\frac{3}{50}} = \dfrac{0.15}{1\frac{4}{5}}$

26. $\dfrac{8\frac{4}{5}}{1\frac{1}{10}} = \dfrac{x}{0.4}$

RELATING CONCEPTS (EXERCISES 27–28) For Individual or Group Work

Work Exercises 27–28 in order. *First prove that the proportions are* **not** *true. Then create four true proportions for each exercise by changing one number at a time.*

27. $\dfrac{10}{4} = \dfrac{5}{3}$

28. $\dfrac{6}{8} = \dfrac{24}{30}$