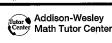
5.3 Exercises





Math by MathXL





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Write each proportion. See Example 1.

1. \$9 is to 12 cans as \$18 is to 24 cans.

- 2. 28 people is to 7 cars as 16 people is to 4 cars.
- 3. 200 adults is to 450 children as 4 adults is to 9 children.
- 4. 150 trees is to 1 acre as 1500 trees is to 10 acres.

5. 120 ft is to 150 ft as 8 ft is to 10 ft.

6. \$6 is to \$9 as \$10 is to \$15.

Determine whether each proportion is true or false by writing the ratios in lowest terms. Show the reduced ratios and then write true or false. See Example 2.

7.
$$\frac{6}{10} = \frac{3}{5}$$

8.
$$\frac{1}{4} = \frac{9}{36}$$

9.
$$\frac{5}{8} = \frac{25}{40}$$

10.
$$\frac{2}{3} = \frac{20}{27}$$

11.
$$\frac{150}{200} = \frac{200}{300}$$

$$12. \ \frac{100}{120} = \frac{75}{100}$$

13.
$$\frac{42}{15} = \frac{28}{10}$$

14.
$$\frac{18}{16} = \frac{36}{32}$$

15.
$$\frac{32}{18} = \frac{48}{27}$$

16.
$$\frac{15}{48} = \frac{10}{24}$$

17.
$$\frac{7}{6} = \frac{54}{48}$$

18.
$$\frac{28}{21} = \frac{44}{33}$$

Use cross products to determine whether each proportion is true or false. Show the cross products and circle true or false. See Example 3.

19.
$$\frac{2}{9} = \frac{6}{27}$$

20.
$$\frac{20}{25} = \frac{4}{5}$$

21.
$$\frac{20}{28} = \frac{12}{16}$$

True

False

True

False

True

False

22.
$$\frac{16}{40} = \frac{22}{55}$$

True

False

$$23. \ \frac{110}{18} = \frac{160}{27}$$

True False

$$24. \ \frac{600}{420} = \frac{20}{14}$$

True

False

25.
$$\frac{3.5}{4} = \frac{7}{8}$$

True

False

26.
$$\frac{36}{23} = \frac{9}{5.75}$$

True

False

27.
$$\frac{18}{16} = \frac{2.8}{2.5}$$

True

False

28.
$$\frac{0.26}{0.39} = \frac{1.3}{1.9}$$

True False

$$29. \ \frac{6}{3\frac{2}{3}} = \frac{18}{11}$$

True

False

$$30. \ \frac{16}{13} = \frac{2}{1\frac{5}{8}}$$

True

False

$$31. \ \frac{2\frac{5}{8}}{3\frac{1}{4}} = \frac{21}{26}$$

True

False

$$32. \ \frac{28}{17} = \frac{9\frac{1}{3}}{5\frac{2}{3}}$$

True

False

33.
$$\frac{\frac{2}{3}}{2} = \frac{2.7}{8}$$

True

e False

$$34. \ \frac{3.75}{1\frac{1}{4}} = \frac{7.5}{2\frac{1}{2}}$$

True

False

$$35. \ \frac{2\frac{3}{10}}{8.05} = \frac{\frac{1}{4}}{0.9}$$

True

False

$$36. \ \frac{3}{\frac{5}{6}} = \frac{1.5}{\frac{7}{12}}$$

True

False

37. Suppose Ichiro Suzuki of the Seattle Mariners had 16 hits in 50 times at bat and Sammy Sosa of the Chicago Cubs was at bat 400 times and got 128 hits. Paul is trying to convince Jamie that the two men hit equally well. Show how you could use a proportion and cross products to see whether Paul is correct.



38. Jay worked 3.5 hours and packed 91 cartons. Craig packed 126 cartons in 5.25 hours. To see whether the men worked equally fast, Barry set up this proportion:

$$\frac{3.5}{91} = \frac{126}{5.25}$$

Explain what is wrong with Barry's proportion and write a correct one. Is the correct proportion true or false?