

Write the ratio as a fraction in simplest form.

1. 18 red buttons : 12 blue buttons

2. $\frac{5}{4}$ inches to $\frac{2}{3}$ inch

Use the ratio table to find the unit rate with the specified units.

3. cost per song

Songs	0	2	4	6
Cost	\$0	\$1.98	\$3.96	\$5.94

4. gallons per hour

Hours	3	6	9	12
Gallons	10.5	21	31.5	42

Tell whether the ratios form a proportion.

5. $\frac{1}{8}, \frac{4}{32}$

6. $\frac{2}{3}, \frac{10}{30}$

7. $\frac{7}{4}, \frac{28}{16}$

Tell whether the two rates form a proportion.

8. 75 miles in 3 hours; 140 miles in 4 hours

9. 12 gallons in 4 minutes; 21 gallons in 7 minutes

10. 150 steps in 50 feet; 72 steps in 24 feet

11. 3 rotations in 675 days; 2 rotations in 730 days

Use the table to write a proportion.

12.

	Monday	Tuesday
Dollars	42	56
Hours	6	h

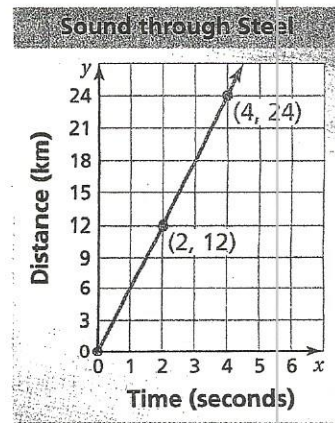
13.

	Series 1	Series 2
Games	g	6
Wins	4	3

14. **MUSIC DOWNLOAD** The amount of time needed to download music is shown in the table. Find the unit rate in megabytes per second.

Seconds	6	12	18	24
Megabytes	2	4	6	8

15. **SOUND** The graph shows the distance that sound travels through steel. Interpret each plotted point in the graph of the proportional relationship.



16. **GAMING** You advance 3 levels in 15 minutes. Your friend advances 5 levels in 20 minutes. Do these rates form a proportion? Explain.

17. **CLASS TIME** You spend 150 minutes in 3 classes. Write and solve a proportion to find how many minutes you spend in 5 classes.

18. **T-SHIRTS** You can buy 3 T-shirts for \$24. Write a proportion that gives the cost c of buying 7 T-shirts.

19. **COMPUTERS** A school requires 2 computers for every 5 students. Write a proportion that gives the number c of computers needed for 145 students.

20. **SWIM TEAM** The school team has 80 swimmers. The ratio of seventh-grade swimmers to all swimmers is 5:16. Write a proportion that gives the number s of seventh-grade swimmers.

Use the Cross Products Property to solve the proportion.

21. $\frac{a}{6} = \frac{15}{2}$

22. $\frac{3}{4} = \frac{v}{14}$

23. $\frac{36}{42} = \frac{24}{r}$

24. $\frac{x}{8} = \frac{3}{12}$

25. $\frac{4}{24} = \frac{c}{36}$

26. $\frac{30}{20} = \frac{w}{14}$

27. **ERROR ANALYSIS** Describe and correct the error in solving the proportion $\frac{m}{8} = \frac{15}{24}$.

~~$\frac{m}{8} = \frac{15}{24}$
 $8 \cdot m = 24 \cdot 15$
 $m = 45$~~

28. **PENS** Forty-eight pens are packaged in 4 boxes. How many pens are packaged in 9 boxes?

Challenge

Solve the proportion.

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

* 30. $\frac{5}{2} = \frac{d-2}{4}$