

Solving Proportions Worksheet
Ms. Rice - Math 7

Name: Key
Date: _____ Color: _____

There are many ways to solve proportions. Here are three we have practiced:

$$\frac{21}{27} = \frac{x}{18}$$

(Handwritten: $\times \frac{2}{3}$ on the top arrow and $\times \frac{2}{3}$ on the bottom arrow)

$$\frac{21}{27} = \frac{x}{18}$$

(Handwritten: $\times \frac{7}{9}$ on the left arrow and $\times \frac{7}{9}$ on the right arrow)

$$\frac{7}{9} = \frac{21}{27} = \frac{x}{18}$$

(Handwritten: $\times 2$ on the top arrow and $\times 2$ on the bottom arrow)

Solve each proportion. Be sure to show all work.

1. $\frac{4}{9} = \frac{10}{x}$

22.5

2. $\frac{5}{2} = \frac{6}{x}$

(Handwritten: $\times 1.2$ on the top arrow and $\times 1.2$ on the bottom arrow)

2.4

3. $\frac{5}{2} = \frac{2}{x}$

0.8

4. $\frac{21}{27} = \frac{x}{18}$

14

5. $\frac{15}{21} = \frac{20}{y}$

28

6. $\frac{26}{b} = \frac{39}{9}$

6

7. $\frac{h}{108} = \frac{7}{18}$

42

8. $\frac{45}{792} = \frac{70}{w}$

1232

9. $\frac{16}{120} = \frac{j}{15}$

(Handwritten: $\div 7.5$ on the left arrow and $\div 7.5$ on the right arrow)

2

10. $\frac{350}{p} = \frac{1050}{60} = \frac{35}{2}$

(Handwritten: $\times 10$ on the top arrow and $\times 10$ on the bottom arrow)

20

11. $\frac{g}{1134} = \frac{27}{729}$

42

12. $\frac{40}{65} = \frac{z}{104}$

64

$$13. \frac{15}{y} = \frac{40}{12}$$

$$\boxed{4.5}$$

$$14. \frac{y}{32} = \frac{16}{10}$$

$$\boxed{51.2}$$

$$15. \frac{32.5}{25} = \frac{97.5}{q}$$

$$\boxed{75}$$

$$16. \frac{y}{42.3} = \frac{144}{56.4}$$

$$\boxed{108}$$

$$17. \frac{126}{k} = \frac{14}{3}$$

$$\boxed{27}$$

$$18. \frac{30}{x} = \frac{16}{40}$$

$$\boxed{75}$$

19-22. For each word problem, write and then solve the proportion to find the answer. Be sure to show all work.

19. A 380-cubic-centimeter sample of titanium has a mass of 1710 grams. Find the weight of a titanium sample that has a volume of 532 cubic centimeters. Write and then solve a proportion to find the answer.

$$\frac{380 \text{ cubic cm}}{1710 \text{ grams}} = \frac{532 \text{ cubic cm}}{x}$$

$$\boxed{x = 2394 \text{ grams}}$$

20. The Bigtown football team outscored its opponents 5:2 last season. If their opponents scored 38 points, how many points did Bigtown score?

$$\frac{5}{2} = \frac{x}{38}$$

$$\boxed{x = 95 \text{ points}}$$

21. In the local coed softball league, the male to female ratio is 6:6. If there are 160 players in the league, how many are female?

part to whole

$$\frac{6 \text{ females}}{12 \text{ players}} = \frac{80 \text{ females}}{160 \text{ players}}$$

$$\boxed{80 \text{ females}}$$

22. In a certain desert environment there are a lot of small rodents. There also happen to be a lot of snakes that feed on the rodents. The ratio of rodents to rodent eating snakes is 13 to 3. If there are 4,000 snakes in the area, about how many rodents are there?

$$\frac{13 \text{ rodents}}{3 \text{ snakes}} = \frac{x}{4,000}$$

$$\boxed{\text{about } 17,333 \text{ rodents}}$$