

Tell whether or not the ratio is in simplest form. If not, write it in simplest form.

1. 14 to 18

$$\frac{14}{18} = \boxed{\frac{7}{9}}$$

2. 5:13

$$\boxed{\frac{5}{13}} =$$

3.  $\frac{24}{25}$

Simplest form

4. 28 to 32

$$\frac{28}{32} = \boxed{\frac{7}{8}}$$

Solve the proportion.

5.  $\frac{35}{1} \cdot \frac{2}{5} = \frac{x}{17} \cdot \frac{15}{5}$

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

$$\boxed{x = \frac{6}{5}}$$

6.  $\frac{8}{1} \cdot \frac{c}{8} = \frac{11}{14} \cdot \frac{8}{1} \cdot 2$

$$\boxed{c = 22}$$

7.  $\frac{12}{1} \cdot \frac{36}{12} = \frac{x}{12} \cdot \frac{12}{1} \cdot 6$

$$\frac{36}{6} = \frac{6x}{6}$$

$$\boxed{x = 6}$$

8.  $\frac{321}{1} \cdot \frac{16}{81} = \frac{m}{121} \cdot \frac{21}{1}$

$$\boxed{m = 481}$$

9.  $\frac{218}{1} \cdot \frac{k}{81} = \frac{10}{18} \cdot \frac{18}{1}$

$$\frac{2k}{2} = \frac{10}{2}$$

$$\boxed{k = 5}$$

10.  $\frac{324}{1} \cdot \frac{5}{81} = \frac{t}{24} \cdot \frac{24}{1}$

$$15 = t$$

$$\boxed{t = 15}$$

Write the sentence as a proportion. Then solve the proportion.

11. 3 is to 8 as  $x$  is to 32

$$\frac{3}{8} = \frac{x}{32}$$

$$12 = x$$

$$\boxed{x = 12}$$

12. 5 is to 7 as  $a$  is to 49

$$\frac{5}{7} = \frac{a}{49}$$

$$35 = a$$

$$\boxed{a = 35}$$

13. y is to 20 as 9 is to 5

$$\frac{20}{1} \cdot \frac{y}{20} = \frac{9}{15} \cdot \frac{204}{1}$$

$$\boxed{y = 36}$$

14. t is to 21 as 40 is to 28.

$$\frac{28}{1} \cdot \frac{t}{21} = \frac{40}{128} \cdot \frac{588}{1}$$

$$\frac{28t}{28} = \frac{840}{28}$$

$$\boxed{t = 30}$$

Solve the proportion.

$$15. \frac{432}{1} \cdot \frac{36}{54} = \frac{2x}{18} \cdot \frac{432}{54}$$

$$36 \div \frac{288}{108} = \frac{108x}{108}$$

$$\boxed{x = \frac{8}{3}}$$

$$16. \frac{12}{1} \cdot \frac{3a}{4} = \frac{36}{12} \cdot \frac{12}{1}$$

$$\frac{9a}{4} = \frac{36}{9}$$

$$\boxed{a = 4}$$

$$17. \frac{30}{1} \cdot \frac{6r}{18} = \frac{36}{15} \cdot \frac{30}{1}$$

$$\frac{18r}{18} = \frac{72}{18}$$

$$\boxed{r = 4}$$

$$18. \frac{864}{1} \cdot \frac{m+3}{81} = \frac{40}{64} \cdot \frac{64}{1}$$

$$8(m+3) = 40$$

$$8m + 24 = 40$$

$$\frac{8m}{8} = \frac{16}{8}$$

$$\boxed{m = 2}$$

$$19. \frac{39}{1} \cdot \frac{5}{13} = \frac{k-4}{39} \cdot \frac{39}{1}$$

$$15 = k - 4$$

$$\boxed{k = 19}$$

$$20. \frac{180}{1} \cdot \frac{6+n}{60} = \frac{15}{90} \cdot \frac{180}{1}$$

$$3(6+n) = 30$$

$$18 + 3n = 30$$

$$\frac{3n}{3} = \frac{12}{3}$$

$$\boxed{n = 4}$$

21. There are 435 representatives in the U.S. House of Representatives. Of the 435 representatives, 6 are from Kentucky. Find the ratio of the number of representatives from Kentucky to the total number of representatives.

$$\boxed{\frac{6}{435}} = \boxed{\frac{2}{145}}$$

22. A student can read 7 pages of a book in 10 minutes. How many pages of the book can the student read in 30 minutes?

$$\cancel{30} \frac{7}{10} = \frac{X}{\cancel{30}} \cdot \frac{30}{1}$$

$$\boxed{X = 21 \text{ pages}}$$

23. In the first 4 games of the season, a soccer team scored a total of 10 goals. If this trend continues, how many goals will the team score in the remaining 18 games?

$$\cancel{10} \frac{4}{10} = \frac{18}{g} \cdot \frac{10}{1}$$

$$\cancel{4} g = \frac{180}{4}$$

$$\boxed{g = 45 \text{ goals}}$$