

Test

Express each of the following as a reduced rational number.

_____ 1. $5\frac{9}{16}$

_____ 2. $\frac{36}{54}$

Identify as rational or irrational.

_____ 3. $\sqrt{169}$

_____ 4. $\sqrt{\frac{25}{2}}$

Simplify each of the following to a reduced rational number.

_____ 5. $\frac{3}{7} \div \frac{4}{5}$

_____ 7. $\sqrt{\frac{3}{10} + \frac{14}{25} \cdot \frac{5}{4}}$

_____ 6. $\sqrt{\frac{400}{49}}$

_____ 8. Express the ratio of 9 dogs to 8 boys in three different ways.

_____ 9. Write $36 : 12$ as a fraction in lowest terms.

_____ 10. Write a ratio equivalent to $\frac{14}{17}$ using whole numbers.

_____ 11. Write the unit ratio for 1,092 bushels of wheat raised on 42 acres.

The zoo has 6 tigers (3 are white), 8 lions, 3 lynx, and 3 black panthers. Express each of the following ratios in lowest terms.

_____ 12. lions to tigers

_____ 13. lions and tigers to panthers

_____ 14. black and white cats to those that are neither

_____ 15. Write the proportion 5 is to 19 as x is to 250. **Do not solve.**

_____ 16. Is the ratio $\frac{5}{9}$ equal to the ratio $\frac{85}{135}$? Write = or \neq .

_____ 17. Solve $\frac{6}{7} = \frac{x}{140}$. _____ 18. Solve $\frac{5}{2} = \frac{405}{n}$.

If a scale of 1 in. to 50 mi. is used in mapmaking, answer the following questions.

_____ 19. How far apart are two cities $3\frac{1}{2}$ in. apart on the map?

_____ 20. If two cities are 525 mi. apart, how far apart will they be on the map?

_____ 21. If an object that is 85 ft. long is represented on a scale drawing as a line 5 in. long, what is the scale used to make the drawing?

_____ 22. Write 0.48 as a rational number in lowest terms.

Write each of the following fractions as a decimal.

_____ 23. $\frac{79}{50}$

_____ 24. $\frac{7}{11}$

_____ 25. $\frac{23}{40}$

Write each of the following as a percent.

_____ 26. 1.25

_____ 27. $\frac{5}{8}$

_____ 28. Write $44\frac{4}{9}\%$ as a rational number in lowest terms.

Write an equation or a proportion used to solve each of the next three questions. Do not solve.

_____ 29. What percent of 80 is 23? **Do not solve.**

_____ 30. What is 15% of 212? **Do not solve.**

_____ 31. 75% of what number is 60? **Do not solve.**

_____ 32. Find 87% of 900.

_____ 33. 156 is what percent of 200?

_____ 34. 70 is 5% of what number?

_____ 35. Find $4\frac{1}{4}\%$ of \$5,200.

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