Algebra I – Ratios and Proportions

1. There are 30 students in an Algebra I class. If there are 14 boys and 16 girls, what is the correct ratio of boys to girls in the class?

2. There are 35 red marbles and 55 blue marbles in a box. What is the correct ratio of red marbles to blue marbles?

3. On an Algebra I test, 6 students made an A, while 18 made a B. What is the correct ratio of students receiving an A to students receiving a B?

4. In a bag of Hershey's Kisses, there are 55 with a red wrapper and 40 with a green wrapper. What is the ratio of Kisses with a green wrapper to those with a red wrapper?

5. There are 26 students in a science classroom. All of the students in the classroom are freshmen and sophomores. If there are 10 freshmen in the classroom, what is the ratio of freshmen to sophomores?

6. A box of cookies contains only sugar cookies and chocolate chip cookies. There are 36 cookies in the box, and 16 of them are chocolate chip cookies. What is the ratio of sugar cookies to chocolate chip cookies?

7. A high school has 130 teachers. If there are 90 female teachers, what is the ratio of male teachers to female teachers?

8. Out of 526 seniors, 230 are boys. What is the ratio of boys to the total number of seniors?

9. John spent $80 on groceries. Of that total $35 was for steaks. What is the ratio of steak cost to the total grocery bill?

10. A bag of M&M candies contains 20 red candies and 18 yellow candies. What is the ratio of yellow candies to red candies?

11. Arnold drives 140 miles in 6 hours. Driving at the same rate, how long will it take him to make a trip of 210 miles?

12. If 12 pencils cost 42 cents, how much would 100 pencils cost?

13. If 18 gallons of gasoline cost $23.31, how much would 12 gallons cost?

14. A telephone pole 60 feet high casts a shadow 80 feet long at the same time that a tree casts a shadow 120 feet. What is the height of the tree?

15. It takes a crew of 6 men to wash 84 windows of a hospital in one day. At the same rate, how many men would it take to wash 140 windows?

16. If it takes 10.5 bushels of grapes to make 30 quarts of jelly, how many bushels of grapes will it take to make 3,200 quarts of jelly?

17. A hotel 300 feet high casts a 240-foot shadow at the same time that a taller hotel casts a 360-foot shadow. How high is the taller hotel?

18. Joe drives 260 miles in 4 hours. Driving at the same rate, how long will it take him to make a trip of 455 miles?

19. Lisa paints a room that has 400 square feet of wall space in 2.5 hours. At this rate, how long will it take her to paint a room that has 720 square feet of wall space?

20. To make a model of the Guadeloupe River bed, Henry used 1 inch of clay for 5 miles of the river's actual length. His model river was 50 inches long. How long is the Guadeloupe River?

21. Josh finished 24 math problems in one hour. At that rate, how many hours will it take him to complete 72 problems?

22. It takes Jacki 3 hours to complete 7 posters and 9 hours to complete 21 posters. How long will it take her to complete 28 posters?

23. Simone is making a scale drawing of the Walnut Street Bridge in Chattanooga, which is 2,370 feet long. In her drawing, 3 inches represent 100 feet. Which proportion can be used to find the length, in feet, of Simone's scale drawing?

A. $\frac{3}{l} = \frac{2370}{100}$ B. $\frac{l}{3} = \frac{2370}{100}$ C. $\frac{l}{2370} = \frac{100}{0.25}$ D. $\frac{2370}{l} = \frac{100}{0.25}$