**Algebra Final Review**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

\_\_\_\_ 1.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 2.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 3.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 46 | d. | 38 |
| b. | 3 | e. | None correct |
| c. | 31 |

\_\_\_\_ 4.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 10.91 | d. | 21.31 |
| b. | 13.71 | e. | None correct |
| c. | 24.11 |

\_\_\_\_ 5. If  and , then  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 3 | d. | –3 |
| b. | None correct | e. | –1 |
| c. | 1 |

\_\_\_\_ 6.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. | None correct | e. |  |
| c. |  |

\_\_\_\_ 7.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. |  |
| c. | None correct |

\_\_\_\_ 8.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 9. If , then *x* equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | –5 | d. | None correct |
| b. | 4 | e. | –4 |
| c. | 5 |

\_\_\_\_ 10. Which ordered pair is associated with point *F*?



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. |  |
| c. | None correct |

\_\_\_\_ 11. Nora buys a case of 75 tea bags for her family. They use 5 bags a day. Which function rule can she use to find the number of tea bags remaining on any given day?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 12. If , then *x* equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 14 | d. | –5 |
| b. | 8 | e. | None correct |
| c. | 15 |

\_\_\_\_ 13.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 14. Identify the range of the function shown in the graph.



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. | all real numbers |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 15. Which function is represented by the graph?



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 16. A store sells 4 batteries for $2.80. Which deal is a better buy?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 6 for $5.10 | d. | 10 for $6.75 |
| b. | 8 for $6.00 | e. | None correct |
| c. | 2 for $1.60 |

\_\_\_\_ 17. In the figure,  is similar to . Find *BC*.



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  in. | d. |  in. |
| b. |  in. | e. | None correct |
| c. |  in. |

\_\_\_\_ 18. A bag contains 5 red marbles and 3 blue marbles. What is the probability of drawing a red marble, keeping it, and then drawing another red marble?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 19. What is the probability of spinning black or spinning a number greater than 3?



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 20. Find the ninth term of the sequence 3, 8, 13, 18, . . . .

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 43 | d. | 53 |
| b. | 48 | e. | None correct |
| c. | 38 |

\_\_\_\_ 21. What is the *y*-intercept for ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 22. Which choice shows the prime factorization of 225?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 23. What is the slope of the line in the graph?



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 24. 170% of 54 equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 9.18 | d. | 918 |
| b. | 3.15 | e. | None correct |
| c. | 91.8 |

\_\_\_\_ 25.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 25 | d. | 7 |
| b. | undefined | e. | 98 |
| c. | 14 |

\_\_\_\_ 26. A book costs $25. It goes on sale for $22. What is the percent of decrease?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 86% | d. | 12% |
| b. | 14% | e. | None correct |
| c. | 88% |

\_\_\_\_ 27. Find the mean of the values in the data set: 31, 18, 16, 25, 49, 39, 39, 39.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 16 | d. | 35 |
| b. | 32 | e. | None correct |
| c. | 39 |

\_\_\_\_ 28. Which value is part of the solution set of ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | –15 | d. | –8 |
| b. | 15 | e. | None correct |
| c. | 8 |

\_\_\_\_ 29. Choose the equation of a line that has slope of  and passes through .

|  |  |  |  |
| --- | --- | --- | --- |
| a. | *y* = *x +* | d. | *y* = *x +* |
| b. | *y* = *x +* | e. | None correct |
| c. | *y* = *x +* |

\_\_\_\_ 30. Use the box-and-whisker plot. Which data value is an outlier?



|  |  |  |  |
| --- | --- | --- | --- |
| a. | 32 | d. | 24 |
| b. | 21 | e. | None correct |
| c. | 27 |

\_\_\_\_ 31. What is the least common multiple of  and ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 32.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 121 | d. | 11 |
| b. | 121 | e. | None correct |
| c. | 11 |

\_\_\_\_ 33. Use the stem-and-leaf plot to find Leah’s median quiz score.

|  |
| --- |
| **Leah’s Math Quiz Scores** |
| **Stem** | **Leaf** |
| 6 | 3 5 6 |
| 7 | 1 2 4 5 7 |
| 8 | 2 4 5 |
| 9 | 1 5 6 6 |
|  |  |
| Key: 8 | 2 = 82 points |

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 96 | d. | 77 |
| b. | 76 | e. | None correct |
| c. | 75 |

\_\_\_\_ 34. Which choice represents an inverse variation?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 35. Choose the equation of a line passing through  that is perpendicular to .

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 36. Solve the system of equations. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 37. Solve the inequality .

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 38. Which set is the solution of ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 39.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 40. What is the length of side *s*?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 41. What is the distance between  and ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 42. What is the minimum of the function in the graph?

|  |
| --- |
|  |
|  |

|  |  |  |  |
| --- | --- | --- | --- |
| a. | None correct | d. | –2 |
| b. | –3 | e. | 2 |
| c. | 1 |

\_\_\_\_ 43. Which number line shows the solution of ?

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |
| e. | None correct |

\_\_\_\_ 44.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 45. Which number line shows the solution of ?

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |
| e. | None correct |

\_\_\_\_ 46. Which inequality matches the graphed region?



|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 47. What are the roots of ?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | , 4 | d. | , –4 |
| b. | –12, 4 | e. | None correct |
| c. | –12, –4 |

\_\_\_\_ 48.  equals

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | d. |  |
| b. |  | e. | None correct |
| c. |  |

\_\_\_\_ 49. A race with 12 contestants awards prizes only for first place, second place, and third place. How many possible ways can the prizes be awarded?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 108 | c. | 36 |
| b. | 1320 | d. | 990 |

\_\_\_\_ 50. Which function does the table of values represent?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***x*** |  |  | 0 | 1 | 2 |
| ***y*** | 15 | 9 | 7 | 9 | 15 |

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |