**(Part 1) Multiple Choice**: Identify the choice that best completes the statement or answers the question.

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| 1. Determine the axis of symmetry if the *x*-intercepts of the parabola are and  A.  B.  C.  D. |  | 6. Which is the absolute maximum of the function    A.  B.  C.  D. |
| 2. What is the range of the function represented by the graph?    A.  B.  C.  D. |  | 7. Which polynomial does the graph represent?    A.  B.  C.  D. |
| 3. Which correctly factors the polynomial?  A.  B.  C.  D. |  | 8. Which is equivalent to the radical expression?  A.  B.  C.  D. |
| 4. Determine the product.  A.  B.  C.  D. |  | 9. What are the solutions to this system of equations?  A.  B.  C.  D. |
| 5. What are the solutions to the system of equations shown?    A.  B.  C.  D. |  | 10. The point identifies what feature of the graph below?    A. Vertex  B. Y-intercept  C. Axis of Symmetry  D. X-intercept |
| 11. What is the inverse of ?  A.  B.  C.  D. |  | 18. What is the inverse of the point ?  A.  B.  C.  D. |
| 12. Determine the *x*-intercept for  A.  B.  C.  D. |  | 19. Which function opens downward?  A.  B.  C.  D. |
| 13. A park is in the shape of a square. The area of the park is 153 square meters. The exact length of a side of the park is between which two lengths?  A. 11 meters and 12 meters  B. 12 meters and 13 meters  C. 13 meters and 14 meters  D. 15 meters and 16 meters |  | 20. How does this equation compare to the graph of  A. It opens downward, and it is translated 4 units to the left and 2 units up.  B. It opens downward, and it is translated 4 units to the right and 2 units up.  C. It opens up, and it is translated 4 units to the left and 2 units up.  D. It opens up, and it is translated 4 units to the right and 2 units up. |
| 14. Simplify.  A.  B.  C.  D. |  | 21. Which of these functions has a *y*-intercept of ?  A.  B.  C.  D. |
| 15. Which correctly completes the square to solve the polynomial?  A.  B.  C.  D. |  | 22. What are the zeros of the equation function  ?  A.  B.  C.  D. |
| 16. What are the interval solutions to the quadratic inequality  ?  A.  B.  C.  D. |  | 23. How many real solutions does the quadratic function have?  A. 0  B. 1  C. 2  D. Infinite |
| 17. What are the zeros of the quadratic function?  A.  B.  C.  D. |  | 24. Which of the following is NOT a one-to-one function?  A.  B.  C.  D. |

**(PART 2) Constructed Response:** Show all work necessary to determining the solution.

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| 25. The graph represents the function  . Identify each of the properties listed.    Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Zeros: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Interval of increase: \_\_\_\_\_\_\_\_\_\_\_\_\_\_  Interval of decrease: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 26. Show by drawing an area model or multiplication table how to find the product of and . Also, find the product of and . |
| 27. Sean was determining the roots for the quadratic equation . His work is shown.  The roots are or  a. What did Sean do incorrectly when determining the roots?  b. Determine the roots for the given quadratic equation. | 28. Name each of the following for the quadratic function .  Zeros \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  y-intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Vertex \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |



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| Answers to Questions 25-28 | |
| 25.  Domain:  Range:  Zeros:  Interval of increase:  Interval of decrease: | 26. Area model:  Product: |
| 27.  a.  b. | 28.  Zeros:  y-intercept:  Vertex: |