**Algebra 2 CP NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Semester 1 PRACTICE Exam DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ HR\_\_\_\_**

**You may use a calculator. Please show all work directly on this test. You may write on the test. GOOD LUCK!**

**THIS IS JUST PRACTICE – GIVE YOURSELF 45 MINUTES TO DO THE TEST – CHECK YOUR SCORE. Once 45 minutes is up, go back and complete the test and make sure every answer is right!**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. | Find the y-intercept of: | | **Do Your Figuring Here** | |
|  |  | |  | |
|  | **A.** | (0, 2) | | |
|  | **B.** | (0, -2) | | |
|  | **C.** | (0, 8) | | |
|  | **D.** | (0, -10) | | |
|  |  | |  | |
|  |  | |  | |
|  |  | |  | |
| 2. | Find the Axis of Symmetry of: | | |  |
|  |  | |  | |
|  | **A.** | x = 2 | | |
|  | **B.** | x = -2 | | |
|  | **C.** | x = 8 | | |
|  | **D.** | x = -10 | | |
|  |  | |  | |
|  |  | |  | |
|  |  | |  | |
| 3. | Which of the following is equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
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| 4. | Which of the following is equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | | **CONTINUE TO NEXT PAGE** | |
|  |  | | **Do Your Figuring Here** | |
| 5. | Solve the following equation: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
| 6. | Which of the following expressions is equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
| 7. | Which of the following expressions is equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
|  |  | |  | |
| 8. | Which of the following expressions is equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** | **CONTINUE TO NEXT PAGE** | | |
| 9. | Which graph has the following End Behavior: | | **Do Your Figuring Here** | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
| 10. | Identify one of the factors of: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
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|  |  | | **CONTINUE TO NEXT PAGE** | |
| 11. | Identify all of the factors of: | | **Do Your Figuring Here** | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
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|  |  | |  | |
|  |  | |  | |
| 12. | One factor of is  Find the remaining factors. | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
|  |  | |  | |
| 13. | Identify all of the zeros of the following polynomial: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
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| 14. | Based on the figure, determine the number  of real zeros. | |  | |
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|  |  | |  | |
|  | **A.** | 3 | | |
|  | **B.** | 4 | | |
|  | **C.** | 5 | | |
|  | **D.** | 6 | | |
|  |  | |  | |
|  |  | | **CONTINUE TO NEXT PAGE** | |
| 15. | Express in simplest radical form: | | **Do Your Figuring Here** | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
|  |  | |  | |
| 16. | Express in simplest radical form: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
| 17. | Which of the following expressions is  equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
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|  |  | |  | |
| 18. | Which of the following expressions is  equivalent to: | |  | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
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|  |  | | **CONTINUE TO NEXT PAGE** | |
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| 19. | If  find . | | **Do Your Figuring Here** | |
|  |  | |  | |
|  | **A.** |  | | |
|  | **B.** |  | | |
|  | **C.** |  | | |
|  | **D.** |  | | |
|  |  | |  | |
|  |  | |  | |
| 20. | Find the domain of: | |  | |
|  |  | |  | |
|  | **A** |  | | |
|  | **B** |  | | |
|  | **C** |  | | |
|  | **D** |  | | |
|  |  | |  | |
| 21. | A recent survey of 500 shows that 75% of students don’t study for their Algebra 2 CP Midterm. Find the interval likely to contain the exact percent. | |  | |
|  |  | |  | |
|  | **A.** | 70.5% - 79.5% | | |
|  | **B.** | 63.5% - 86.5% | | |
|  | **C.** 71.6% - 78.4% | |  | |
|  | **D.** 30% - 100% | |  | |
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**Algebra 2 CP NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Semester 1 PRACTICE EXAM DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ HR\_\_\_\_**

**Part 2**

|  |  |
| --- | --- |
| For #1: Find the indicated values and graph the equation as well as the Axis of Symmetry. You must show all work for credit. | |
| **Graph the equation as well as the axis of symmetry** | |
| Vertex |  |
| Axis of Symmetry \_\_\_\_\_\_\_\_\_\_ |
| Does this graph have a maximum or minimum? (circle one) |
| Maximum/ Minimum Value \_\_\_\_\_\_\_\_\_\_\_ |
| **For #2, Find the Discriminant and Describe the Nature of the Zeros:** | |
| Discriminant:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Nature of Zeros:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **For #3, Your University Book Store sells 200 freshmen math text books at $175 each. The store estimates that for every $5 decrease in price, the store will sell 10 more text books. Find the number of text books and cost of textbooks that will maximize profit, and the maximum profit.** | |
| Cost of Book:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Number of Books Sold:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Max Profit:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **For #4, Find all of the zeros of the function. All work must be shown to receive full credit.** | |
| **x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **For #5, if and ; then find the following:** | |
| **f(x) + g(x) f(x) – g(x)**  **f(x) + g(x):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f(x) – g(x):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **For #6, find the solution(s) to the following equation:** | |
| **x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **For #7, find the solution(s) to the following equation:** | |
| **x = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |

**ANSWERS**

1. D 2. B. 3. A. 4. B 5. B 6. C 7. B 8. C

9. D 10. A 11. C 12. D 13. B 14. C 15. D 16. A

17. C 18. A 19. B 20. D 21. A



**FREE RESPONSE ANSWERS**

1. Vertex: (-1, 3) AoS: x = -1 Maximum @ 3

2. Discriminant: -92 Nature of Zeros: 2 imaginary roots 3. Cost: $137.50; 275 Books Sold; Profit: $37,812.50

4. Zeros: x = -2, 1, ±3i 5. f(x) + g(x) = f(x) - g(x) =

6. x = ±9 7. x = 4