

**Chapter 10**  
**Form C**

For problems 1 – 2, simplify each number.

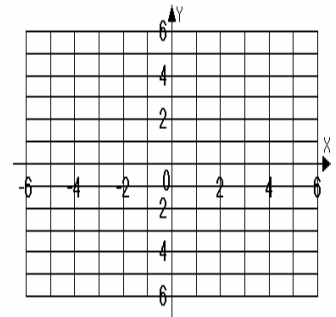
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|----|--|----|-------|
| 1. | $\sqrt{36}$  | 1. | _____ |
| 2. | $\sqrt{-288}$  | 2. | _____ |
| 3. | Solve by the square root property: $(5y + 3)^2 = 25$ . | 3. | _____ |
| 4. | Solve by completing the square: $x^2 + 12x + 4 = 0$ .  | 4. | _____ |
| 5. | Solve by the quadratic formula: $2x^2 - 4x + 3 = 0$ .  | 5. | _____ |

For problems 6 – 11, solve each equation by the method of your choice.

- |     |                       |     |       |
|-----|-----------------------|-----|-------|
| 6.  | $5x^2 + 2x + 1 = 0$   | 6.  | _____ |
| 7.  | $9x^2 + 16 = 0$       | 7.  | _____ |
| 8.  | $x^2 + 4x = -4$       | 8.  | _____ |
| 9.  | $(x - 1)(x + 4) = -4$ | 9.  | _____ |
| 10. | $10x^2 + 3 = 11x$     | 10. | _____ |
| 11. | $(3x + 2)^2 = 6$      | 11. | _____ |

For problems 12 – 13, use the equation  $y = -x^2 + 4x$ .

- |     |  |     |                                    |
|-----|--|-----|------------------------------------|
| 12. | Find the $x$ -intercepts and $y$ -intercept. If the $x$ -intercepts are irrational numbers, round your answers to the nearest tenth. | 12. | $x$ -int. _____<br>$y$ -int. _____ |
| 13. | Find the vertex, and graph the parabola. Label the $x$ -intercepts, $y$ -intercept, and the vertex.                                  | 13. | vertex _____                       |



Name \_\_\_\_\_

Date \_\_\_\_\_

For problems 14 – 15, use the equation  $y = 6x^2 - 12x + 4$ .

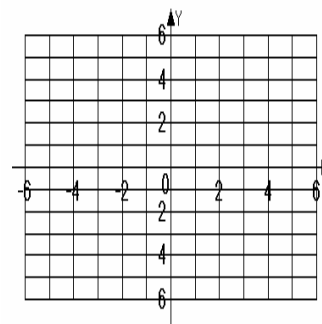
14. Find the  $x$ -intercepts and  $y$ -intercept. If the  $x$ -intercepts are irrational numbers, round your answers to the nearest tenth.

14.  $x$ -int. \_\_\_\_\_

$y$ -int. \_\_\_\_\_

15. Find the vertex and graph the parabola. Label the  $x$ -intercepts,  $y$ -intercept, and vertex.

15. vertex \_\_\_\_\_



16. The function  $P(x) = -4x^2 + 20x + 10$  models the profit,  $P$ , in thousands of dollars for  $x$  units sold. What is the maximum profit that can be made?

16. \_\_\_\_\_

17. Is the relation  $\{(1, 5)(2, 7)(3, 9)\}$  a function? Give the domain and range for the relation.

17. Function? \_\_\_\_\_

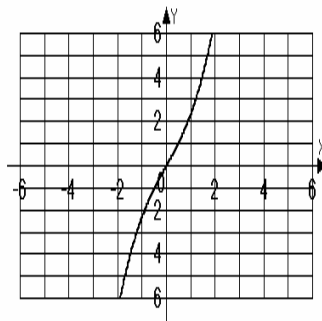
Domain \_\_\_\_\_

Range \_\_\_\_\_

18. Is the graph shown in the figure a function? Explain why or why not.

18. Function? \_\_\_\_\_

Explain \_\_\_\_\_



19. If  $g(x) = \frac{x}{|x|}$ , find  $g(-2)$ .

19. \_\_\_\_\_

20. A 52-inch diagonal television has a square screen. How long are the sides of the screen? Express your answer in simplified radical form and approximated to the nearest tenth.

20. \_\_\_\_\_