

Chapter 10
Form A

For problems 1 – 2, find the indicated root, or state that the expression is not a real number.

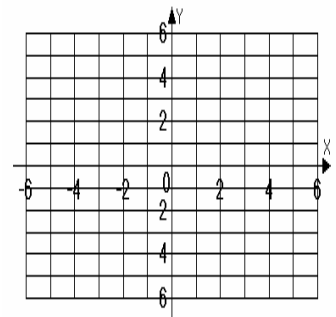
- | | | | |
|----|---|----|-------|
| 1. | $\sqrt{-81}$ | 1. | _____ |
| 2. | $\sqrt{-32}$ | 2. | _____ |
| 3. | Solve by the square root property: $(x + 4)^2 = 36$. | 3. | _____ |
| 4. | Solve by completing the square: $x^2 + 6x - 3 = 0$. | 4. | _____ |
| 5. | Solve by the quadratic formula: $2x^2 - 5x + 6 = 0$. | 5. | _____ |

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

- | | | | |
|-----|-----------------------|-----|-------|
| 6. | $x^2 + 6x + 4 = 0$ | 6. | _____ |
| 7. | $x^2 + 49 = 0$ | 7. | _____ |
| 8. | $(2x - 1)(x - 3) = 7$ | 8. | _____ |
| 9. | $(5x - 1)^2 = 24$ | 9. | _____ |
| 10. | $3x^2 + 2x = -4$ | 10. | _____ |
| 11. | $2x^2 - 6x = 5$ | 11. | _____ |

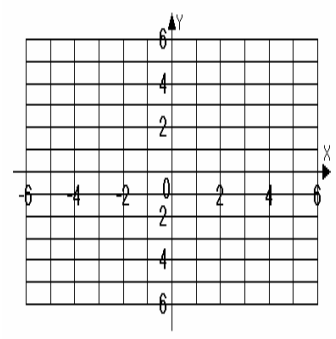
For problems 12 – 13, use the equation $y = x^2 + 6x + 8$.

- | | | | |
|-----|--|-----|------------------------------------|
| 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. _____
y -int. _____ |
| 13. | Find the vertex, and graph the parabola. Label the x -intercepts, y -intercept, and the vertex. | 13. | vertex _____ |

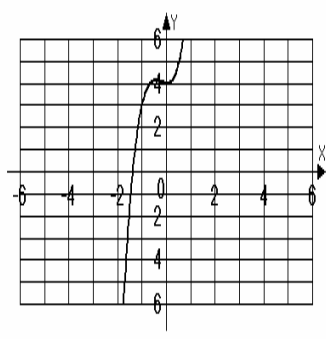


For problems 14 – 15, use the equation $y = -3x^2 + 6x + 2$.

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. A ball is thrown into the air. The formula $y = -12x^2 + 48x + 8$ models the ball's height above the ground, y , in feet, x seconds after it was thrown. When does the ball reach its maximum height? What is that height?
 16. _____
17. Is the relation $\{(1, 2)(5, 6)(3, 7)\}$ 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 $f(x) = 2x^2 - x + 4$, find $f(2)$.
 19. _____
20. The function $P(s) = 1.56s^2 + 4.2s + 10.5$ models the profit, P , in dollars that a gift store achieves for the number of shoppers, s , who enter the store. Find and interpret $P(10)$.
 20. _____