

Chapter 5 Test

Form A

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Name _____

Date _____

1. Solve the equation.

$$-x^2 + 4 = 2x^2 - 5$$

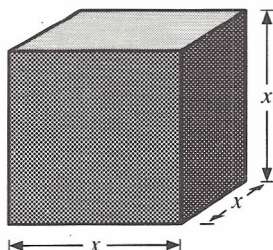
1. _____

2. Solve the equation. Round the solutions to two decimal places.

$$5x^2 - 2 = 7$$

2. _____

3. **Geometry** The surface area of a cube is 536 square inches. How long is each edge? (Round to two decimal places.)



3. _____

4. **Falling Object** The height, h (in feet), of a falling object on Mars is given by $h = -6t^2 + s$, where t is the time in seconds and s is the initial height in feet. If an object were dropped from a height of 200 feet, how long would it take to reach the ground? (Round to two decimal places.)

4. _____

5. Does the parabola open *up* or *down*?

$$y = 4 + 6x - 2x^2$$

5. _____

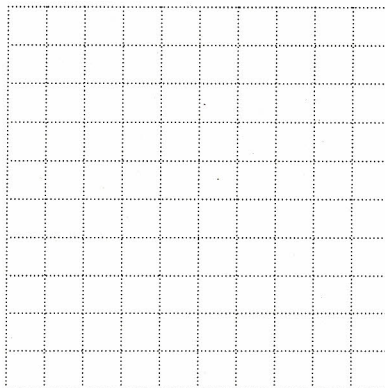
6. Find the *vertex* and the *axis of symmetry* of the parabola.

$$y = 3x^2 + 12x + 9$$

6. _____

7. Sketch the graph of the equation.

$$y = x^2 - 2x + 3$$

7. Use graph at left.

8. Write the trinomial as the square of a binomial.

$$x^2 - 18x + 81$$

8. _____

9. Solve the equation by completing the square.

$$x^2 + 2x - 35 = 0$$

9. _____

10. **Geometry** The height of a triangle is three feet longer than the base. The area of the triangle is 35 square feet. Find the height and base of the triangle.

10. _____

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11. State the discriminant of the quadratic.

$$5x^2 - 3x - 12 = 0$$

11. _____

12. Use the discriminant to determine the number of real solutions of the equation.

$$4x^2 - 3x - 7 = 0$$

12. _____

13. Use the quadratic formula to solve the equation.

$$x^2 + 2x - 1 = 0$$

13. _____

14. Solve the equation. Round to two decimal places.

$$0.2x^2 + 0.31x - 0.15 = 0$$

14. _____

15. Write the number using the imaginary unit i .

$$\sqrt{-36}$$

15. _____

16. Simplify the expression.

$$(3i)^2$$

16. _____

17. Is $-2i$ a solution of $x^2 = -4$?

17. _____

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18. Solve the equation.

$$4 - 2x^2 = 12$$

18. _____

19. Perform the indicated operations.

$$(5 - 2i) - 2(3 + i)$$

19. _____

20. Perform the indicated operations.

$$(2 + 3i)(1 - 4i)$$

20. _____

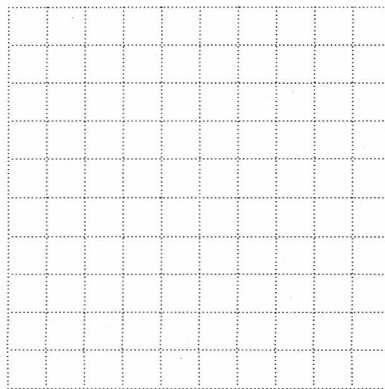
21. Solve the equation.

$$2x^2 + x + 3 = 0$$

21. _____

22. Sketch the graph of the inequality.

$$y \geq 2x^2 + 4x - 1$$



22. Use graph at left.