

Algebra 2
Chapter 5 Practice Test

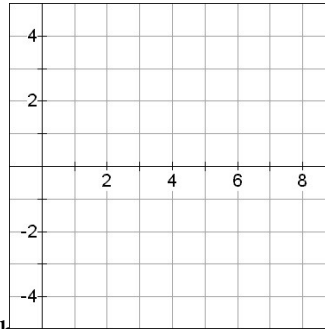
1. Graph and analyze the graph.

$$y = -(x-3)^2 + 4$$

- a. Find the y-intercept, the vertex, axis of symmetry, state the maximum or minimum value (circle whether it is max or min), roots, and state the domain and range.

- b. Using the same coordinate plane graph:

$$y \leq -(x-3)^2 + 4$$



2. Write the following in vertex form.

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

Solve by factoring.

Show work in area provided.

3. $x^2 - 4x - 60 = 0$

4. $3x^2 + 5x = 2$

Solve using the quadratic formula.

Fill in the quadratic formula with the appropriate numbers and then give the exact (no decimals) solution only.

5. $4x^2 + 2x - 3 = 0$

6. $-2x^2 + 3x = -5$

- 1.

y-intercept: _____

vertex: _____

axis of sym: _____

Max or Min: _____

Roots: _____

Domain: _____

Range: _____

(See Graph)

2. _____

3. _____
(see work)

4. _____
(see work)

5. _____

$$\frac{-(\) \pm \sqrt{(\)^2 - 4(\)(\)}}{2(\)}$$

6. _____

$$\frac{-(\) \pm \sqrt{(\)^2 - 4(\)(\)}}{2(\)}$$

7. Use your graphing calculator to solve $0 = x^2 - 3x + 4$.
Round to two decimal places.

7. _____

Solve the inequalities.

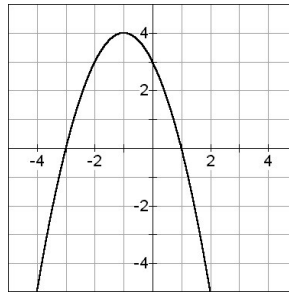
8. $x^2 - 3x - 4 \geq 0$

9. $x^2 + 5x < -6$

8. _____

9. _____

10. Solve the following inequality using the given graph of $f(x)$.
When is $f(x) \geq 0$?



10. _____

11. Find the quadratic if the roots are 5 and -7.

11. _____

12. Find the quadratic if the roots are $1 \pm \sqrt{5}$

12. _____

13. Find the value of the discriminant, give the quantity of roots, and describe the nature of the roots for $4x^2 - 2x + 5 = 0$

13. D = _____

Quantity: _____

Discription: _____

14. Find the equation of a quadratic, in vertex form, with a vetex (-3,1) and a passes through the point (0,2).

14. _____