

Chapter 9 Test Review Packet

Name: _____

Section 9.1: Square Roots

Evaluate the following expression.

1.) $-\sqrt{100}$

2.) $\pm\sqrt{64}$

3.) $\sqrt{25}$

4.) $\sqrt{b^2 - 4ac}$ when $a = 3$, $b = 8$, and $c = 4$

Section 9.2: Solving Quadratic Equations by Finding Square Roots

Solve the following equations. Write your answer in simplest radical form.

5.) $2x^2 = 162$

6.) $x^2 - 4 = 4$

7.) $4x^2 + 2 = 26$

Section 9.3: Simplifying Radicals

Simplify the following expressions.

8.) $\sqrt{45}$

9.) $\sqrt{192}$

10.) $2\sqrt{32}$

Simplify the following expressions.

11.) $\sqrt{\frac{4}{36}}$

12.) $\sqrt{\frac{15}{20}}$

13.) $3\sqrt{\frac{1}{3}}$

Section 9.4: Graphing Quadratic Functions

Graph the function by completing the table. Identify the graph's axis of symmetry (AOS), vertex, and tell whether the graph opens up or down.

14.) $y = -x^2 - 2x + 3$

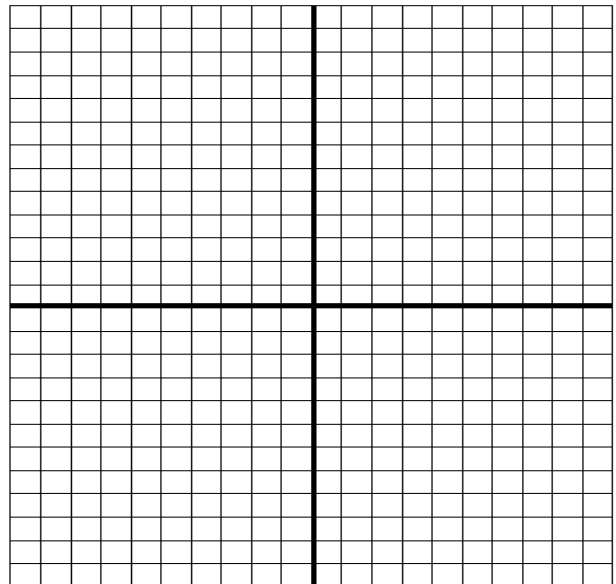
AOS: _____

vertex: _____

y-int: _____

opens: _____

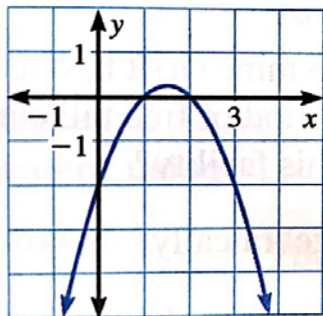
x					
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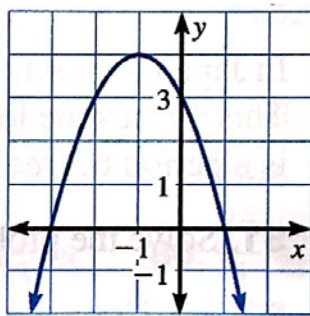
Section 9.5: Solving Quadratic Equations by Graphing

Use the graph to identify the solutions.

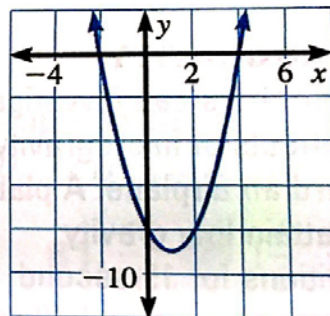
15.)



16.)



17.)



Solve the quadratic equations by graphing. Identify the graph's axis of symmetry (AOS), vertex, solutions, and tell whether the graph opens up or down.

18.) $y = 3x^2$

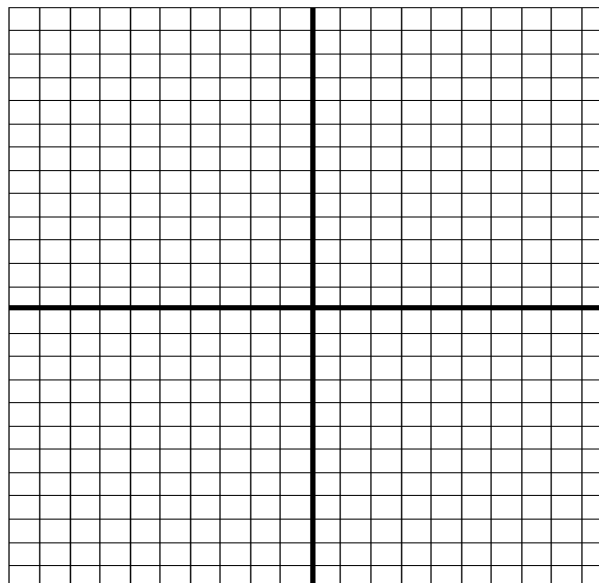
AOS: _____

vertex: _____

y-int: _____

opens: _____

solution/s: _____



x					
y					

19.) $y = x^2 - 2x - 3$

AOS: _____

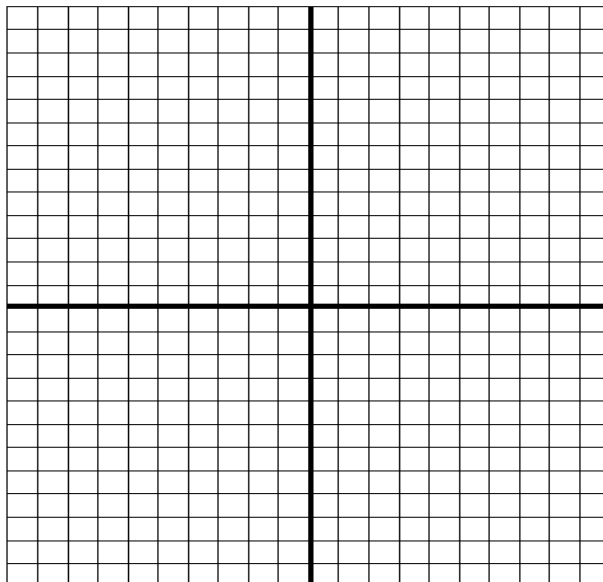
vertex: _____

y-int: _____

opens: _____

solution/s: _____

x					
y					



Section 9.6: Solving Quadratic Equations by the Quadratic Formula

Solve the quadratic equations using the quadratic formula. Write your answer in simplest radical form.

20.) $3x^2 - 4x - 1 = 0$

21.) $-x^2 + 3x - 2 = 0$

22.) $x^2 - 2x = 8$

Section 9.7: Using the Discriminant

Find the value of the discriminant. Then use the value to determine whether the equation has *two solutions*, *one solution*, or *no real solution*.

23.) $x^2 + 3 = 0$

24.) $x^2 - 4x + 4 = 0$

25.) $-x^2 - 10x - 25 = 0$

Section 9.8: Graphing Quadratic Inequalities

Graph the following quadratic inequalities.

26.) $y \geq x^2$

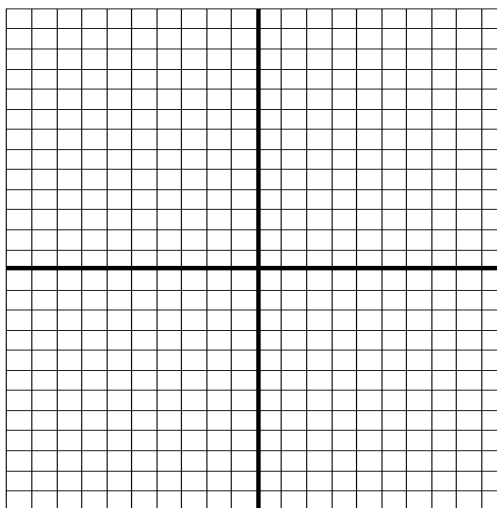
AOS: _____

vertex: _____

y-int: _____

opens: _____

x					
y					



27.) $y < x^2 + 2x + 2$

AOS: _____

vertex: _____

y-int: _____

opens: _____

x					
y					

