Algebra 2 – Unit 6 Test Recovery
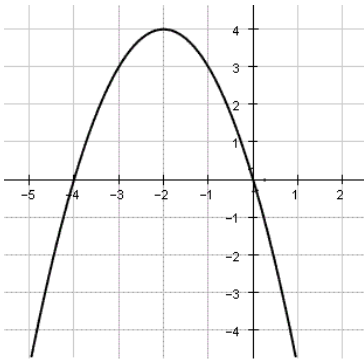
Use the equation $y = x^2 + 4x + 5$ for problems 1 – 4.
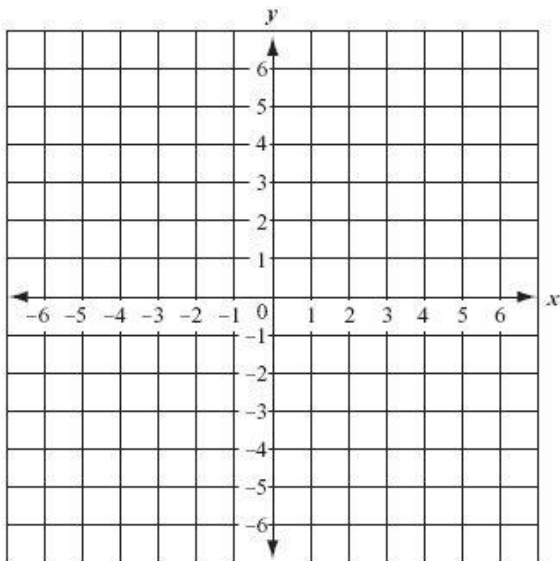
1. Give the vertex.

3. Give the y-intercept.

2. Give the equation for the axis of symmetry.

4. Give the direction that the parabola opens.

5. Identify the x-intercepts of the graph.

6. How many zeros does the function $f(x) = x^2 + 8x + 15$ have?

7. Solve $a^2 - 8a - 20 = 0$

8. Sketch a graph of the inequality $y < -x^2 + 4x - 7$

9. Write an equation for a function with the vertex of (1,3) and is reflected over the x-axis

13. Simplify $(12 - 8i) - (-2 + 10i)$

14. Simplify $(2 + i)(1 + 3i)$

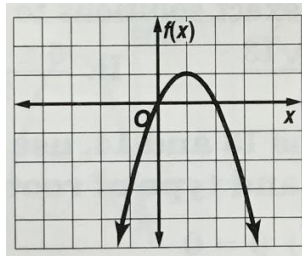10. What is the vertex of $y = 2(x - 2)^2 + 4$?

15. Simplify $\dfrac{3i}{1-i}$

11. What are the transformations of $y = 5(x - 1)^2 + 4$?

16. Simplify i^2

12. What are the transformations of $y = -\dfrac{1}{5}(x + 10)^2$

17. What are the transformations of the graph.

18. Write $\dfrac{6 \pm \sqrt{-12}}{3}$ in simpliest form.

19. What are the roots of the equations $y = x^2 - 7x$

Solve each quadratic using any method given. Leave any irrational roots in simplified radical form.

20. $x^2 - 6x + 8 = 0$

21. $3x^2 + 6x + 5 = 0$

22. $4x^2 + 8x + 12 = 0$

23. $x^2 - 18x + 80 = 0$