

4-2

Practice

Form G

Standard Form of a Quadratic Function

Identify the vertex, the axis of symmetry, the maximum or minimum value, and the range of each parabola.

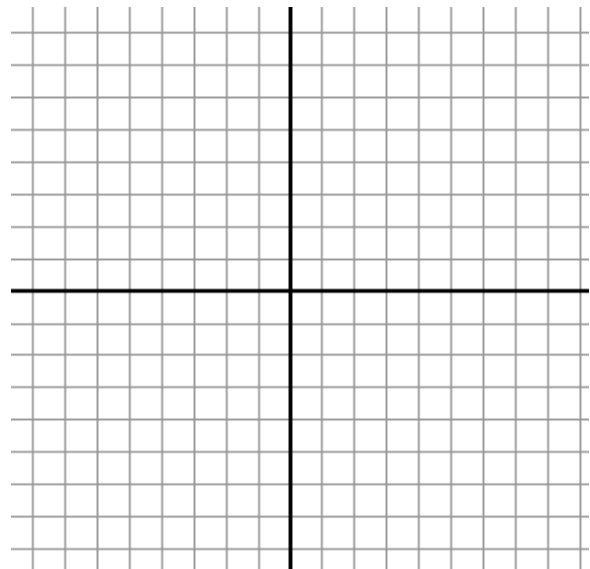
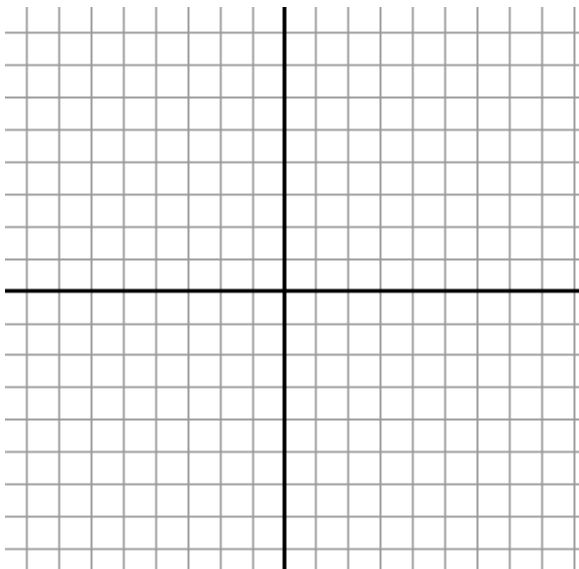
3. $y = -x^2 - 6x - 10$

4. $y = 3x^2 + 18x + 32$

Graph each function.

7. $y = x^2 + 2x - 5$

12. $y = -3x^2 + 18x - 27$



Write each function in vertex form.

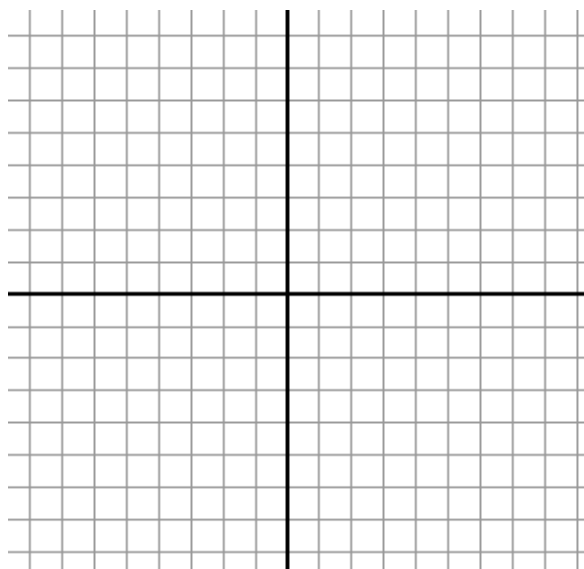
13. $y = x^2 - 8x + 19$

14. $y = x^2 - 2x - 6$

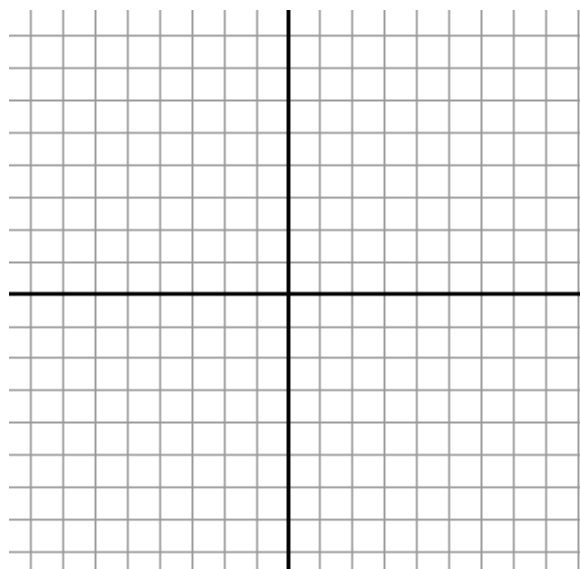
17. $y = 2x^2 - 12x + 11$

Sketch each parabola using the given information.

20. vertex $(4, -2)$, y -intercept 6



21. vertex $(-3, 12)$, point $(-1, 0)$



For each function, the vertex of the function's graph is given. Find the unknown coefficients.

22. $y = x^2 + bx + c$; $(-4, -7)$

23. $y = ax^2 - 10x + c$; $(-5, 20)$

For each function, find the y -intercept.

26. $y = (x + 3)^2 - 5$

27. $y = -2(x - 2)^2 + 6$

29. $y = \frac{1}{2}(x+4)^2 - 15$