Use the information provided to write the vertex form equation of each parabola.

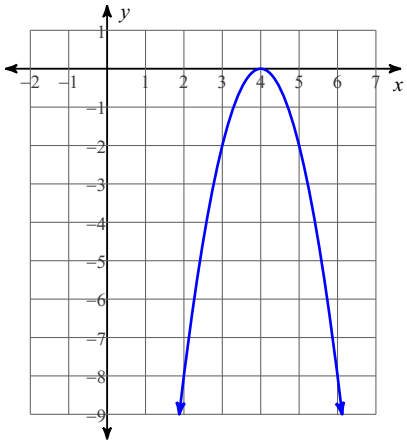
10) $y = -x^2 + 8x - 15$

11) $y = -x^2 - 4x + 5$

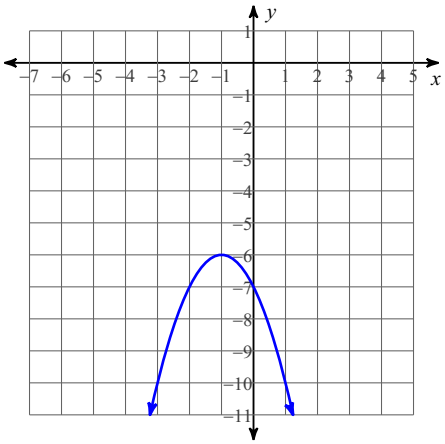
12) Vertex: $(-5, -10)$, y-intercept: 15

13) Vertex: $(-10, -8)$, Passes through: $(-9, -2)$

14)



15)



Use the information provided to write the intercept form equation of each parabola.

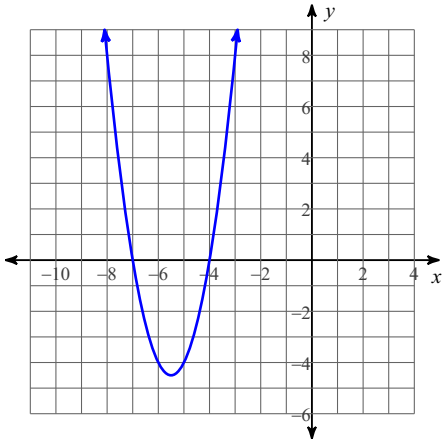
16) $y = 3x^2 + 39x + 108$

17) $y = -\frac{1}{2}x^2 - \frac{9}{2}x$

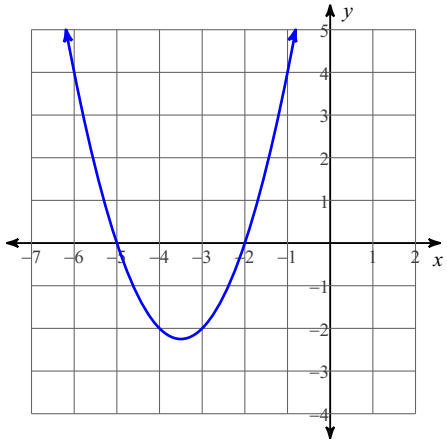
18) passes through $(5, 0)$, $(-3, 0)$, and $(-2, -6)$

19) passes through $(-5, 0)$, $(-1, 0)$, and $(-2, 7)$

20)



21)



Simplify each expression.

22) $(3x^3 + 2x - 2) + (6 - 8x^3 + 2x^2) - (2x^3 - 4x^4 - 2x)$

Factor each completely.

23) $6p^3 + 60p^2 + 96p$

Simplify.

24) $(x^2y^4)^3 \cdot x^2y^4$