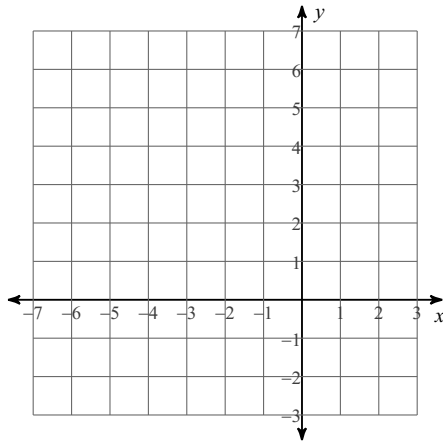


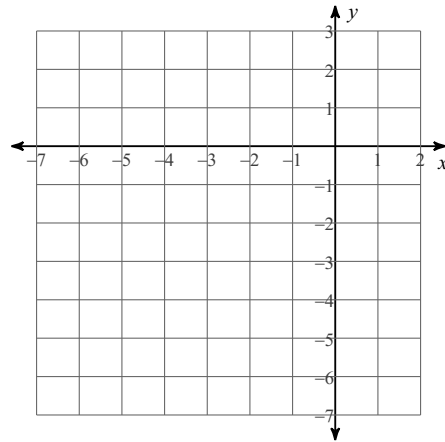
# Quadratic Inequalities

Sketch the graph of each quadratic inequality. List all key features.

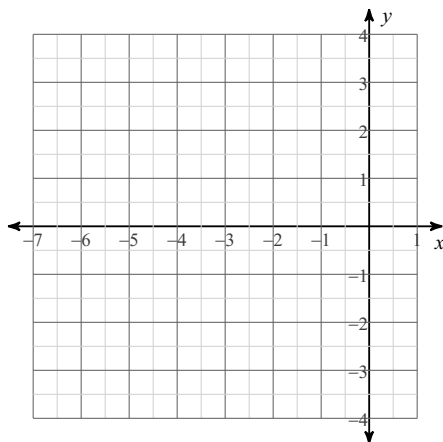
1)  $y < 2(x + 1)(x + 3)$



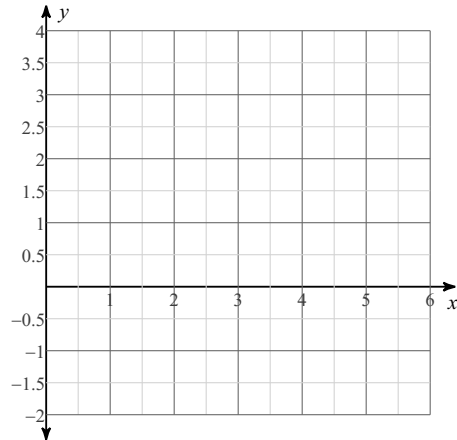
2)  $y \geq -2(x + 5)(x + 3)$



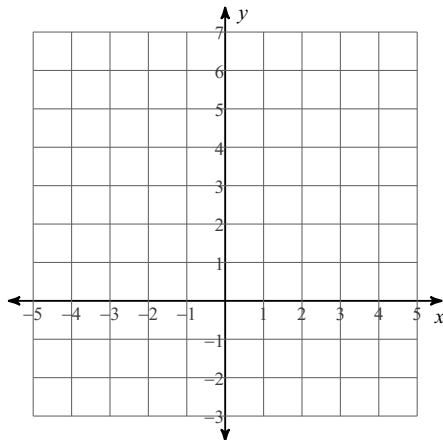
3)  $y < -\frac{1}{2}(x + 5)(x + 1)$



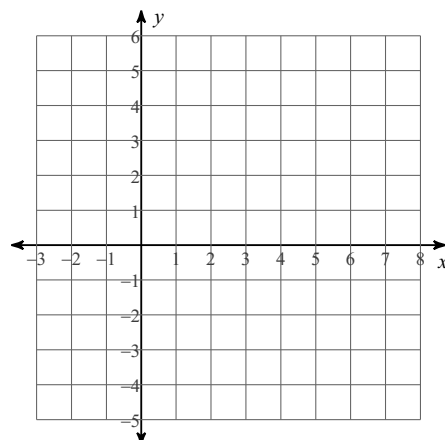
4)  $y \geq (x - 2)(x - 4)$



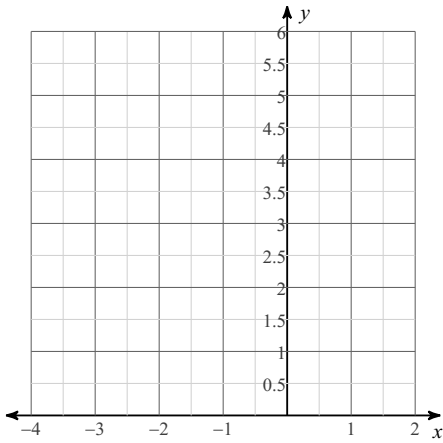
5)  $y \leq 2(x + 2)(x + 0)$



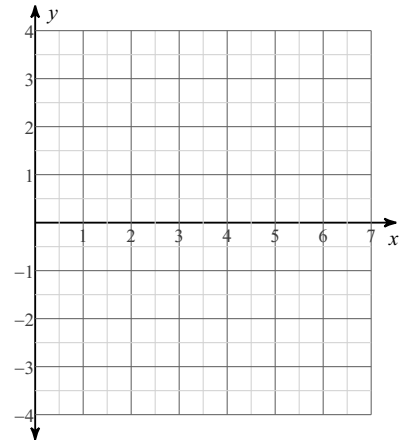
6)  $y > \frac{1}{2}(x - 2)(x - 6)$



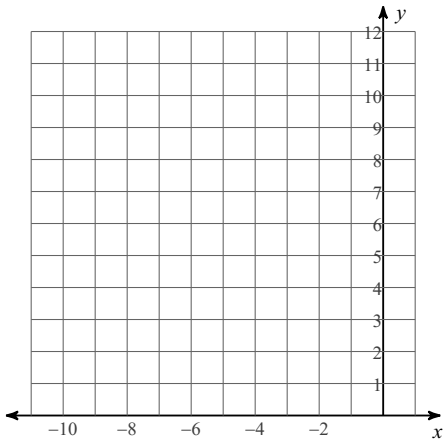
7)  $y > x^2 + 2x + 2$



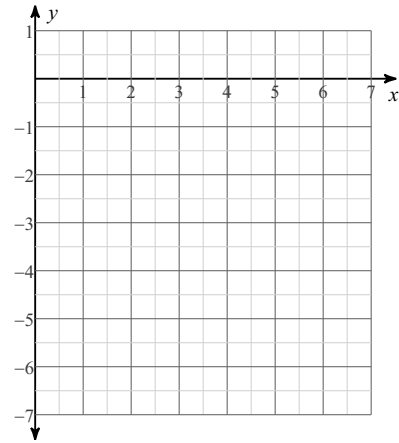
8)  $y > x^2 - 8x + 14$



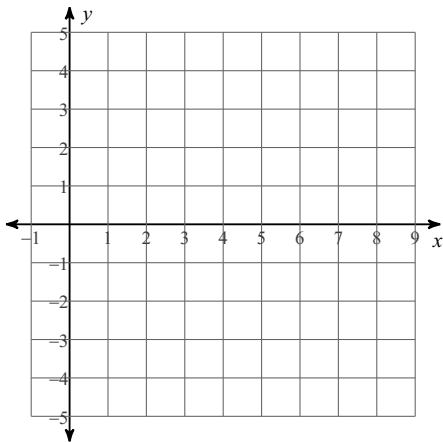
9)  $y < 2x^2 + 8x + 11$



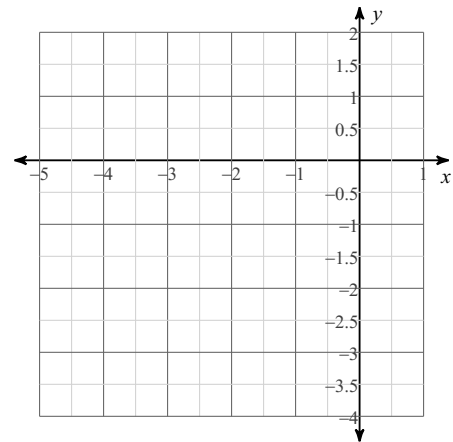
10)  $y \geq -x^2 + 8x - 17$



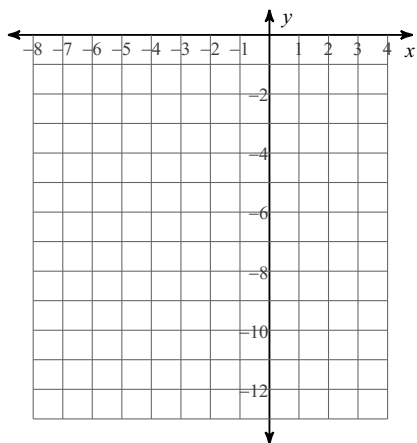
11)  $y \leq 2x^2 - 12x + 14$



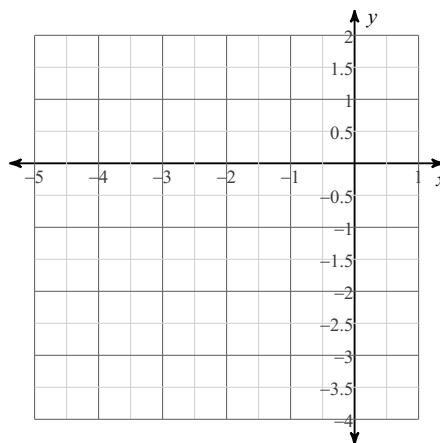
12)  $y > -x^2 - 4x - 3$



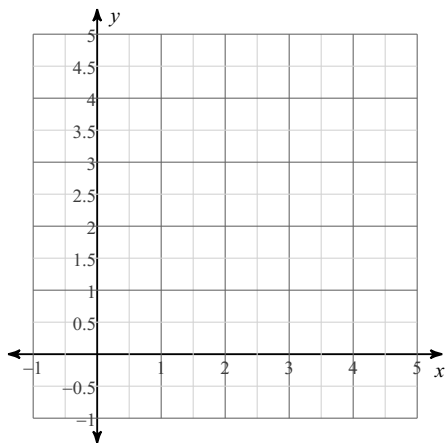
$$13) y \leq -2(x - 1)^2 - 4$$



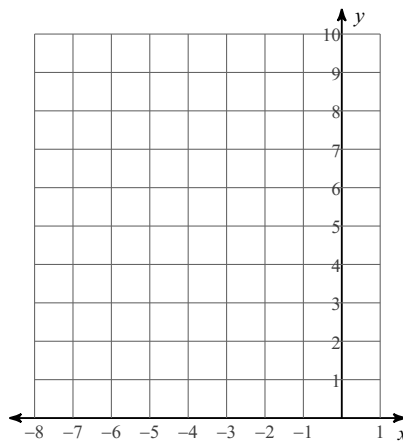
$$14) y \geq (x + 2)^2 - 3$$



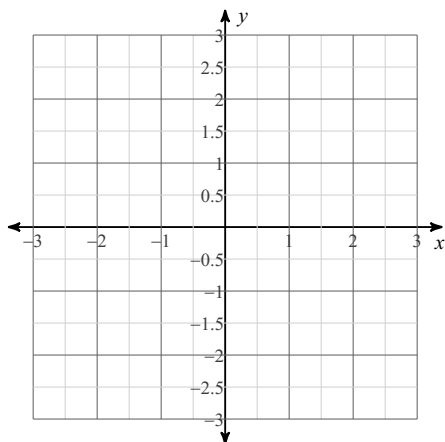
$$15) y \leq -(x - 3)^2 + 4$$



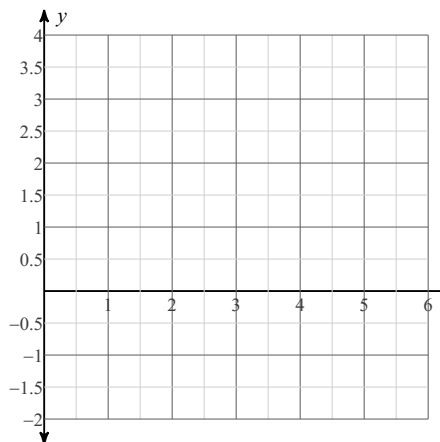
$$16) y < 2(x + 4)^2 + 1$$



$$17) y > -(x + 1)^2 + 2$$



$$18) y \leq (x - 3)^2 - 1$$



**Factor each completely.**

19)  $x^2 - 3x + 2$

20)  $b^2 + 9b + 18$

21)  $-p^2 - 11p - 10$

22)  $-b^2 - 13b - 30$

23)  $p^2 - 8p - 9$

24)  $-4x^2 + 60x - 216$

25)  $v^2 - 4$

26)  $x^2 - 16$

27)  $16p^2 - 1$

28)  $9n^2 - 1$