Algebra II Name_____

Chapter 7 Test Review

Date_____ Period____

Solve each equation by taking square roots.

1) $n^2 = -64$

2) $3n^2 - 3 = 69$

Solve each equation by completing the square.

3) $x^2 + 8x + 15 = 0$

4) $v^2 - 8v + 32 = 0$

5) $p^2 - 2p - 63 = 0$

6) $9x^2 + 18x + 28 = 0$

7) $3n^2 + 18n = -8$

8) $k^2 - 14k + 63 = -5$

Solve each equation with the quadratic formula.

9) $6x^2 - 8x - 78 = 0$

10) $2a^2 - 3a + 6 = 0$

11) $12b^2 - 7b - 17 = 0$

12) $3p^2 + 10p - 17 = -4$

Identify the vertex and axis of symmetry of each. Then, sketch the graph.

13) $y - 8 = 2(x + 5)^2$

14) $y + 8 = -(x - 6)^2$

Write the equation $y - k = a(x - h)^2$ for each parabola described.

15) Vertex: $(2, 9)$; contains $(4, 5)$

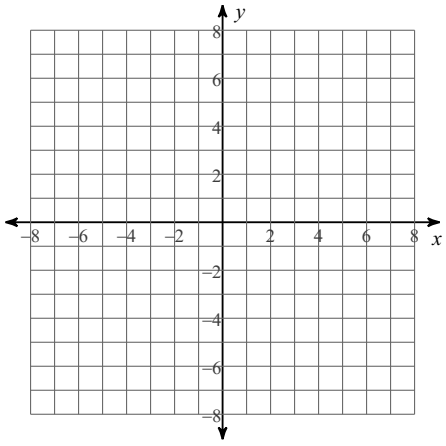
16) Vertex: $(-2, -6)$; contains $(-3, -7)$

17) Vertex: $(-4, 5)$; contains $(-2, 1)$

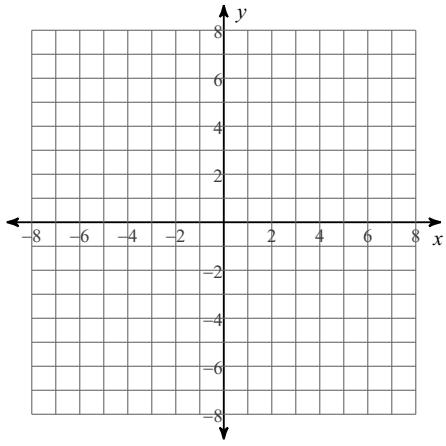
18) Vertex: $(3, 5)$; contains $(4, 0)$

Identify the vertex, min/max value, Domain, and Range of each. Then sketch the graph.

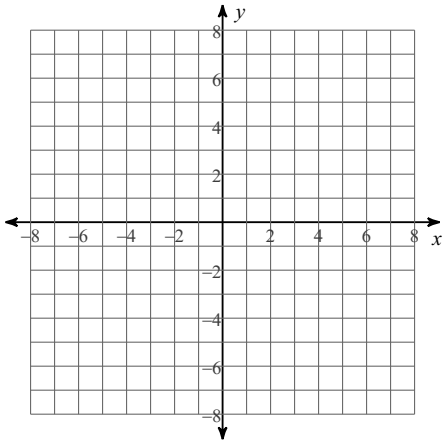
19) $f(x) = x^2 - 6x + 6$



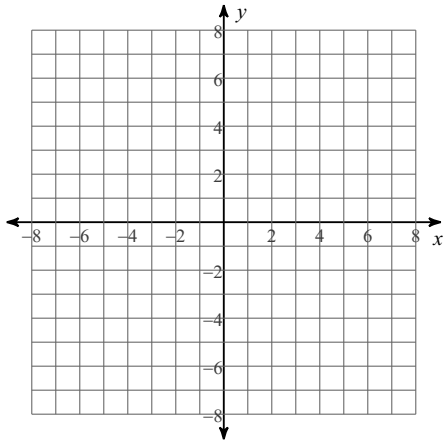
20) $f(x) = 2x^2 - 8x + 4$



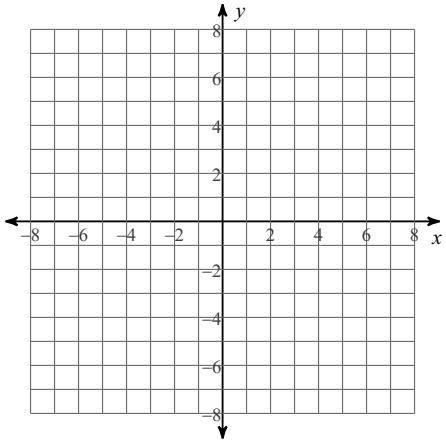
21) $f(x) = -2x^2 + 20x - 56$



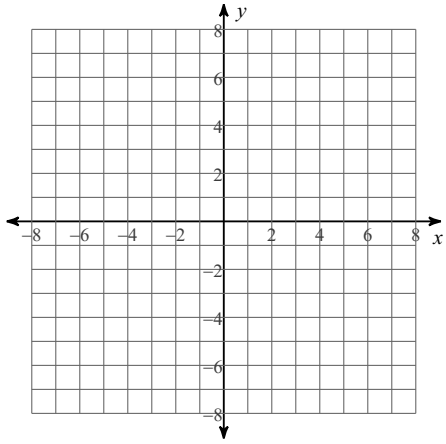
22) $f(x) = x^2 - 8x + 17$



23) $f(x) = -x^2 - 8x - 21$



24) $f(x) = x^2 - 6x + 13$



Find a quadratic equation with integral coefficients having the given roots.

25) 7, 2

26) $\sqrt{3}, -\sqrt{3}$

27) $7 - i, 7 + i$

Find a quadratic function $f(x) = ax^2 + bx + c$ for each parabola described.

28) minimum: –1

x - intercepts: –6 and 2

29) minimum: –2

x - intercepts: –7 and –5

30) maximum: 4

x - intercepts: –5 and –1