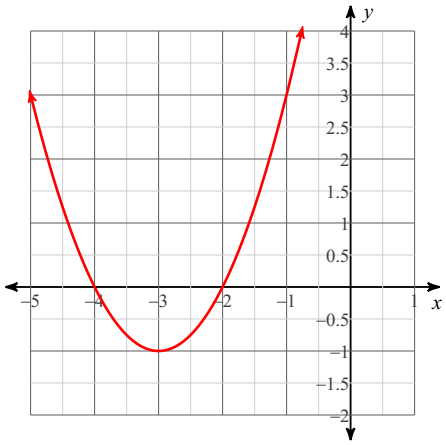
Algebra 2 AC Name_____ ID: 1

Ch 4 Review

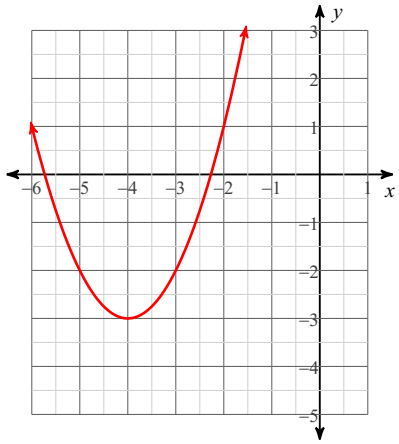
Date_____ Period____

Sketch the graph of each function.

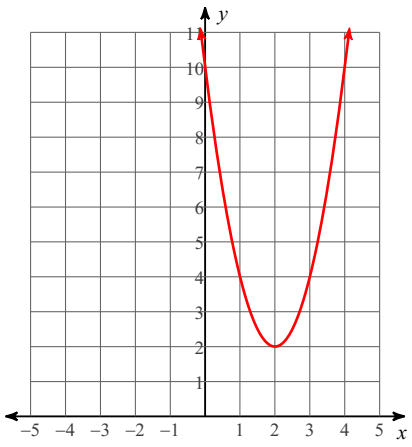
1) $y = x^2 + 6x + 8$



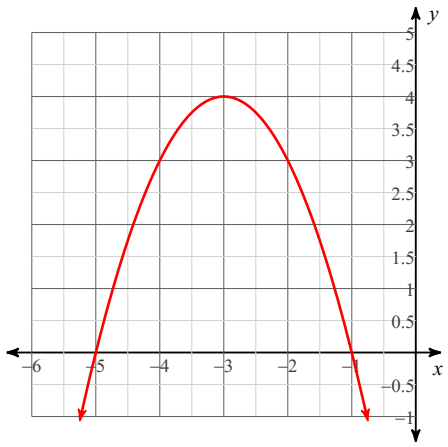
2) $y = x^2 + 8x + 13$



3) $y = 2(x - 2)^2 + 2$



4) $y = -(x + 3)^2 + 4$



Solve each equation by factoring.

5) $x^2 + x = 0$

$\{-1, 0\}$

6) $x^2 + 2x = 0$

$\{-2, 0\}$

7) $r^2 - 11r + 22 = -8$

$\{6, 5\}$

8) $k^2 + 4k + 2 = 2$

$\{-4, 0\}$

9) $x^2 - 10x = -24$

$\{6, 4\}$

10) $v^2 + 4v = 12$

$\{-6, 2\}$

11) $20n^2 - 64n = -12$

$\left\{\frac{1}{5}, 3\right\}$

12) $15r^2 - 55r = 100$

$\left\{-\frac{4}{3}, 5\right\}$

Solve each equation by taking square roots.

13) $n^2 + 3 = 61$

$\{\sqrt{58}, -\sqrt{58}\}$

14) $x^2 - 1 = 0$

$\{1, -1\}$

15) $36n^2 = 64$

$\left\{\frac{4}{3}, -\frac{4}{3}\right\}$

16) $n^2 - 4 = 32$

$\{6, -6\}$

Solve each equation with the quadratic formula.

17) $6x^2 + 4x - 130 = 0$

$\left\{\frac{13}{3}, -5\right\}$

18) $4m^2 - 36 = 0$

$\{3, -3\}$

19) $5m^2 + 5m - 5 = 5$

$\{1, -2\}$

20) $6k^2 - 5k - 48 = 8$

$\left\{\frac{7}{2}, -\frac{8}{3}\right\}$

Find the discriminant of each quadratic equation then state the number and type of solutions.

21) $x^2 + 2x + 1 = 0$

0; one real solution

22) $10v^2 - 7v + 6 = 0$

–191; two imaginary solutions

23) $9m^2 - 9m + 3 = 7$

225; two real solutions

24) $6n^2 - 2n - 2 = -3$

–20; two imaginary solutions

Simplify.

25) $(-5 - 7i) + (7i) + (2i)$

$-5 + 2i$

26) $(-1 + i) - (8 + 7i)$

$-9 - 6i$

27) $(5 + 5i) - (7i) + 7$

$12 - 2i$

28) $(-8 + 2i) + (6 - i)$

$-2 + i$

29) $(-1 - 7i)(8 - 4i)$

$-36 - 52i$

30) $(6i)(6i)(-2 - 7i)$

$72 + 252i$

31) $\dfrac{7}{10i}$

$-\dfrac{7i}{10}$

32) $\dfrac{-7}{-i}$

$-7i$