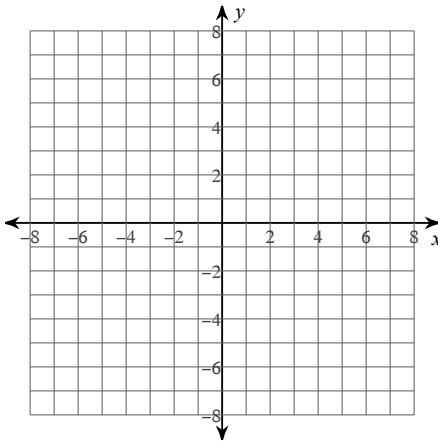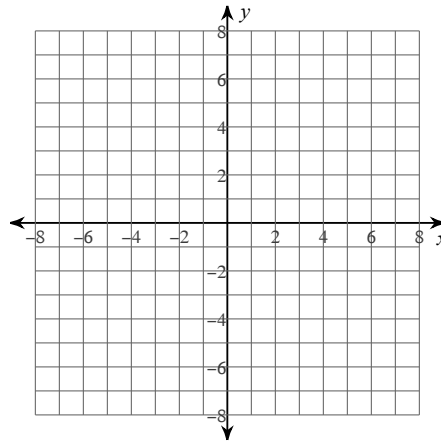Name_____

Unit 2 Review

Date_____ Period____

Use Desmos to sketch the graph. Then identify the zeros of each function.
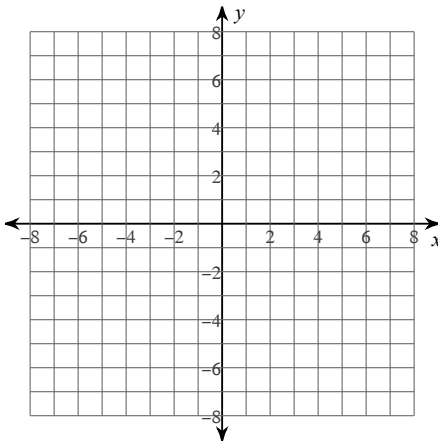
1) $y = -x^2 - 6x - 8$

2) $y = x^2 - 4x + 6$

3) $y = -\dfrac{1}{2}x^2 - 3x - \dfrac{9}{2}$

Solve each equation by taking square roots.

4) $-8 - 6v^2 = -494$

5) $9v^2 + 5 = 905$

6) $2p^2 - 7 = 173$

7) $6x^2 + 5 = 533$

8) $3a^2 - 1 = -2$

9) $4x^2 + 3 = -21$

Solve each equation by factoring.

10) $a^2 - a - 30 = 0$

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

12) $p^2 - 2p + 6 = 6$

13) $n^2 = -2n + 8$

14) $2p^2 + 3p - 5 = 0$

15) $2k^2 - 7k - 30 = 0$

16) $8k^2 - 47k - 2 = 4$

17) $5k^2 - 32k = 21$

18) Write the Quadratic Formula.

Solve each equation with the quadratic formula.

19) $5x^2 - 11x - 136 = -12$

20) $8k^2 + 9k - 21 = -12$

21) $4x^2 - 6x + 11 = 3$

Solve each equation by completing the square.

22) $p^2 + 4p - 11 = 10$

23) $a^2 + 14a - 15 = 4$

24) $x^2 + 18x + 80 = -4$

25) $m^2 + 8m + 89 = 5$

26) What is the difference between what the Quadratic Formula tells you vs what the Discriminant tells you?

27) What is the value of i?

28) What is the value of i^2?

Simplify.

29) $8i - 6 - 4 + 5i$

30) $-2 + 4i - (-1 + 8i)$

31) $(-1 + 6i)(2 - 6i)$

32) $(2 + 3i)^2$