Algebra 1 – Quadratics **Name**_____
Day 15 – Day 19 Review **Hour**_____ **Date** _____

Part A: Solve each equation by factoring and using the zero-product property.

1. $(b-12)(b+12)=0$	**2.** $(5x+6)(5x-7)=0$
3. $x^2-3x-4=0$	**4.** $x^2-6x+9=0$
5. $2x^2+4x=0$ (hint: GCF)	**6.** $5z^2=20z$
7. $2x^2+5x=12$	**8.** $4r^2=r+3$
9. $6x^2=-19x-10$	**10.** $(x+2)(x-7)=0$

11. $x^2 + 7x + 12 = 0$	**12.** $5x^2 - 10x = 0$
13. $2x^2 + 5x = 3$	**14.** $3x^2 - 5x = -3x^2 + 6$

Part B: Solve each equation by finding square roots. Round to the nearest thousandth, if necessary. If the equation has no solution, write no solution.

15. $4x^2 - 7 = 21$	**16.** $-2x^2 + 9 = 19$
17. $(x - 3)^2 + 1 = 17$	**18.** $(x + 4)^2 - 5 = 20$
19. $3(x - 7)^2 + 6 = 249$	**20.** $2(x + 5)^2 - 4 = 196$

21. $3x^2 + 5 = 32$	**22.** $-(x+3)^2 = -20$

Part C: Find the x-intercepts of each equation.

23. $y = x^2 + 5x - 24$	**24.** $y = -2(x-3)^2 + 50$

Part D: Model the problem with a quadratic equation. Then solve.

25. *Find the side of a square with an area of 400 ft^2. (draw a picture)*

26. *A rectangle's length is 4 more than its width. It has an area of 60 cm^2. Find the length of the rectangle. (draw a picture)*

Part E: Graph each quadratic in standard form. For each quadratic state the following:

a. Find the vertex.
b. Write the function in vertex form.
c. State the axis of symmetry.
d. Write the function in factored form.
e. State the x-intercepts.
f. State the y-intercept.

27. $y = x^2 - 12x + 27$

a. _____

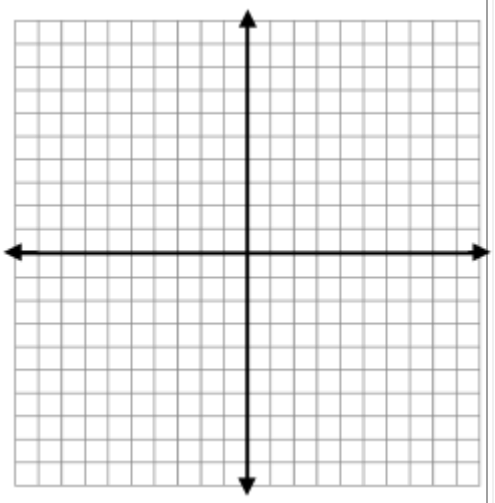
b. _____

c. _____

d. _____

e. _____

f. _____



28. $y = x^2 + 8x - 20$

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____