Algebra 1 Chapter 9.6 Homework

**SHOW WORK ON OTHER PAPER AND OTHER GRAPH PAPER FOR CREDIT**

For the following Quadratic Equations find the following then Graph:

a. Axis of Symmetry
b. Vertex
c. If it opens Up or Down
d. Is it a Max or Min
e. What is the Domain
f. What is the Range
g. Y-intercept
h. Zeros/X-intercepts/Roots

1. $y=-3x^2+3$
2. $y=x^2-10x+24$
3. $y=-x^2-4x-4$
4. $y=3x^2-12x+9$
5. $y=-x^2-2x+8$
6. $y=4x^2-16x+16$

Solve each equation by finding square roots. If the equation has no real solution, write NO SOLUTION. If the value is irrational, round to the nearest hundredth.

7. $x^2-144=0$
8. $3x^2=300$
9. $3x^2-27=0$
10. $81x^2-10=15$
11. $4x^2+9=41$
12. $2x^2+8=4$
13. $4x^2+6=7$
14. $x^2+1=0$
15. $x^2+4=4$
16. $7x^2+8=15$
17. $2x^2-10=-4$
18. $4x^2-2=1$
19. $2x^2+6=x^2+9$
20. $3x^2=10+x^2$
21. $5x^2-18=-23$

22. A ball is thrown into the air with an upward velocity of 40 ft/s. Its height h in feet after t seconds is given by the function $h=-16t^2+40t+6$.
a. In how many seconds does the ball reach its maximum height?
b. What is the ball's maximum height?

23. The height of a flare can be approximated by the function $h=-16t^2+95t+6$, where h is the height in feet and t is the time in seconds. Find the time it takes the flare to hit the ground.

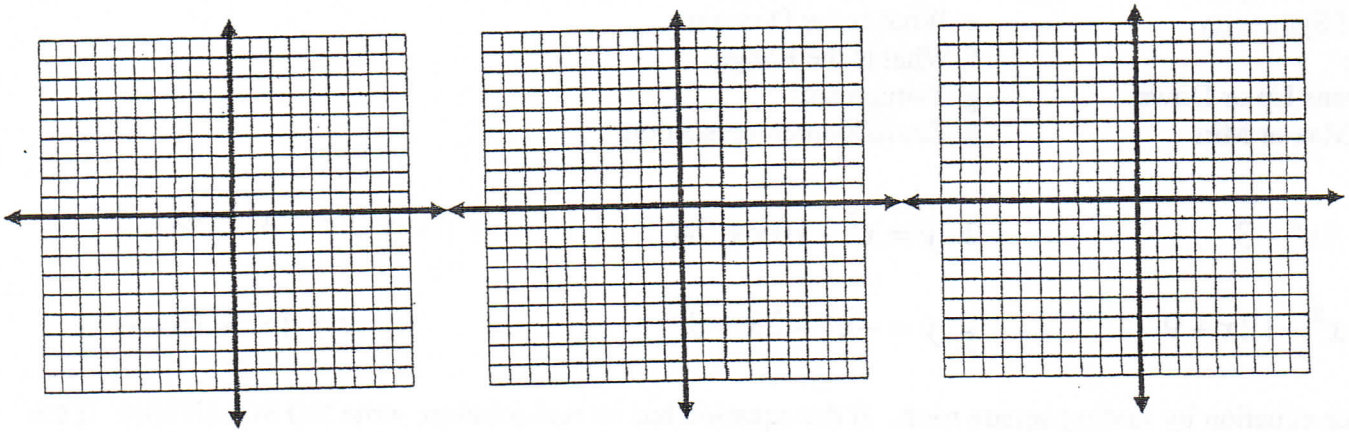
24. A ball is thrown into the air with an initial upward velocity of 48 ft/s. Its height h in feet after t seconds is given by the function $h=-16t^2+48t+4$.
a. In how many seconds will the ball reach its maximum height?
b. What is the ball's maximum height?

25. A diver is standing on a platform 24ft above the pool. He jumps from the platform with an initial velocity of 8 ft/sec giving the function $y=-16t^2+8t+24$ Find out how long it takes the diver to hit the water.

**Find the Zeros/ X-intercepts using the Zero Product Property:**

26. $y=4x^2+12x+9$
27. $4=-5x+6x^2$
28. $y=3x^2+16x+5$
29. $2x^2-9=7x$
30. $x^2-2x=35$
31. $x^2=9x-14$

Name:_____



Axis of Symmetry:_____

Vertex: _____

Zeros: _____

Opens Up or Down:_____

Max or Min: _____

Domain: _____

Range: _____

y int: _____

Axis of Symmetry:_____

Vertex: _____

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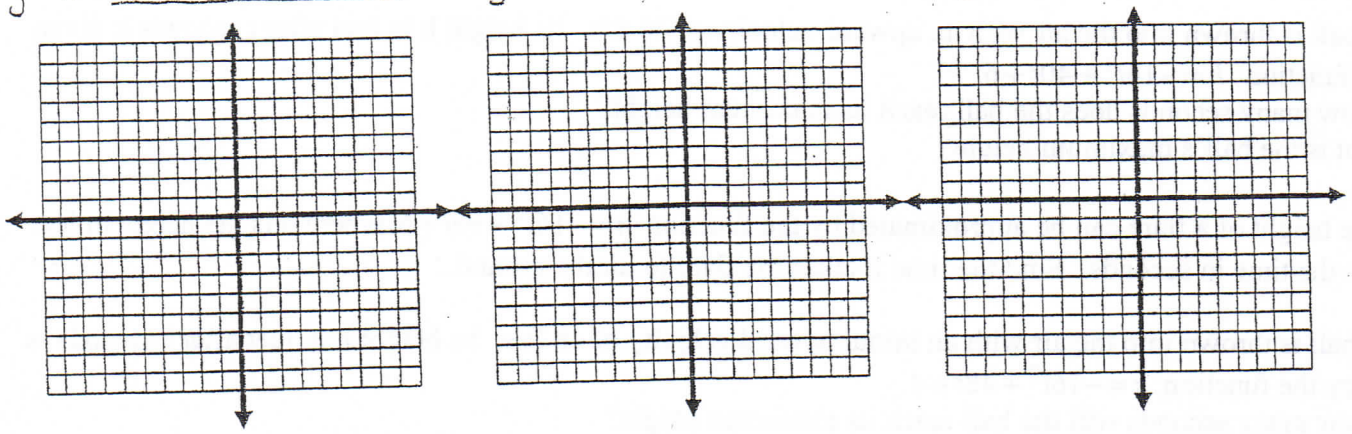

Axis of Symmetry:_____

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