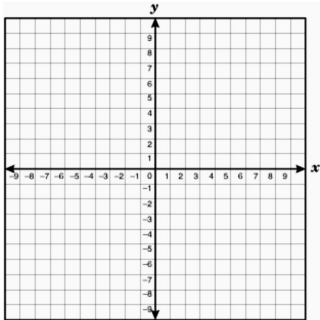


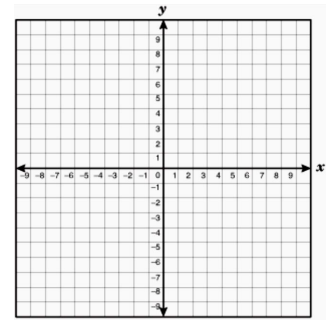
Complete the Square by drawing a picture, then also Algebraically. Graph your answer.

1.  $y = x^2 + 8x + 19$



VERTEX FORM:

2.  $y = x^2 + 12x + 35$



VERTEX FORM:

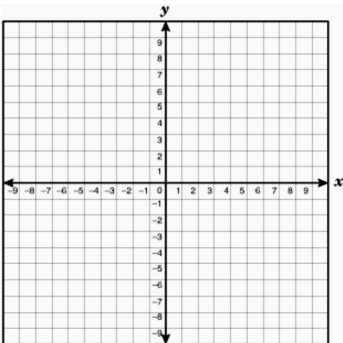
Using the answer in #2, let  $y = 0$  and find the x-Intercepts.

x-Intercepts (   , 0 ) (   , 0 )

Let  $x = 0$  and find the y-Intercept.

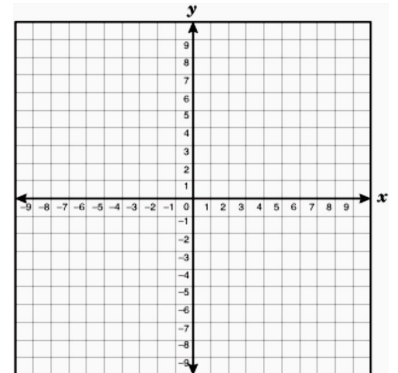
y-Intercept ( 0 ,   )

4.  $y = x^2 + 6x + 14$



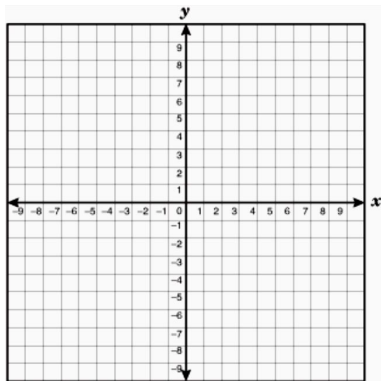
VERTEX FORM:

5.  $y = x^2 - 8x + 23$



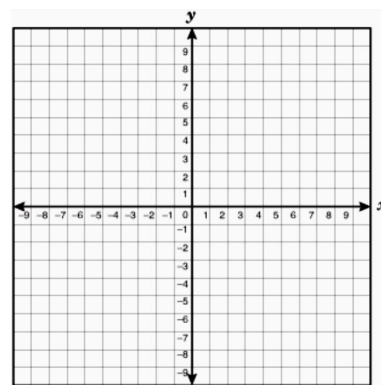
VERTEX FORM:

6.  $y = x^2 + 6x + 5$



VERTEX FORM:

8.  $y = 2x^2 + 20x + 51$

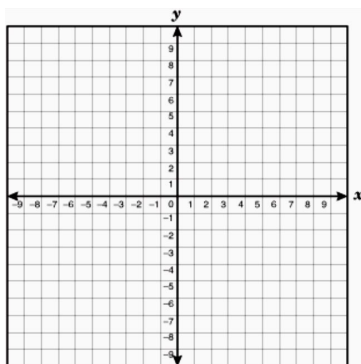


VERTEX FORM:

7. Using the Vertex form from #6, Let  $y = 0$  and find the x-Intercepts

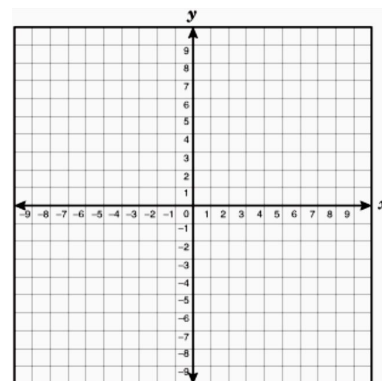
Let  $x = 0$  and find the y-Intercept.

9.  $y = 3x^2 + 6x + 7$



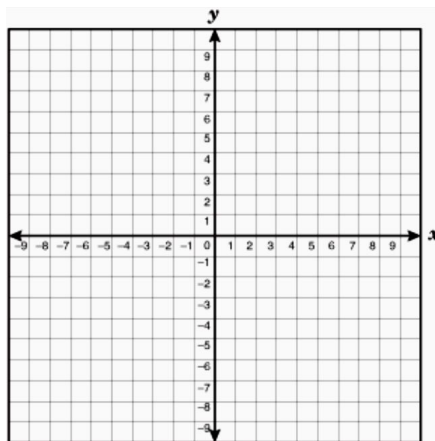
VERTEX FORM:

10.  $y = 4x^2 + 16x + 23$



VERTEX FORM:

11. Write a quadratic equation that is reflected over the x-axis, has a stretch factor of 3, and is moved up 4 and right 1. Graph at the right showing at least 5 dots to create graph.



12. Use the following descriptions of the x and y-Intercepts to find them. (days, money)  
The x-Intercept shows that in 8 days you are out of money.

x-Intercept ( , )

The y-Intercept shows that you were given \$72 for your birthday.

y-Intercept ( , )

If the spending is at a constant rate, find the equation of the line that would fit this situation.

$y = \underline{\hspace{1cm}}x + \underline{\hspace{1cm}}$

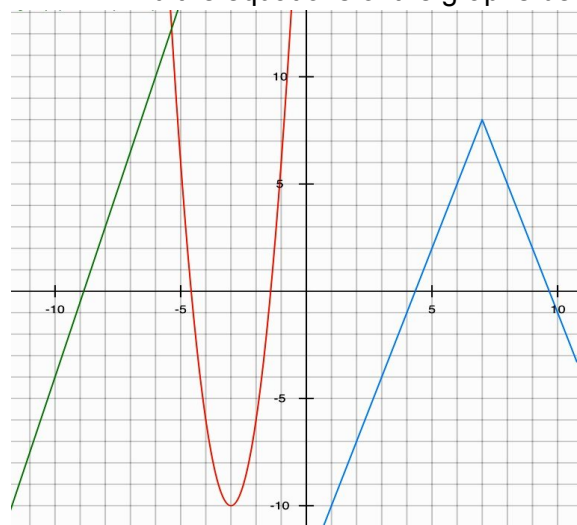
Using the following table, SHOW the first rate of change, and the SECOND rate of change. Decide if it is Linear or Quadratic, then find the equation.

x	y
0	24
1	9
2	4
3	9
4	24
5	49
6	84

LINEAR, EXPONENTIAL or QUADRATIC?

Equation:

14. Find the equations of the graphs below.



Equation of Line:

Equation of Absolute Value:

Equation of Quadratic:

15. Write Vertex Form and Standard Form for the following tile diagram.



STANDARD FORM:

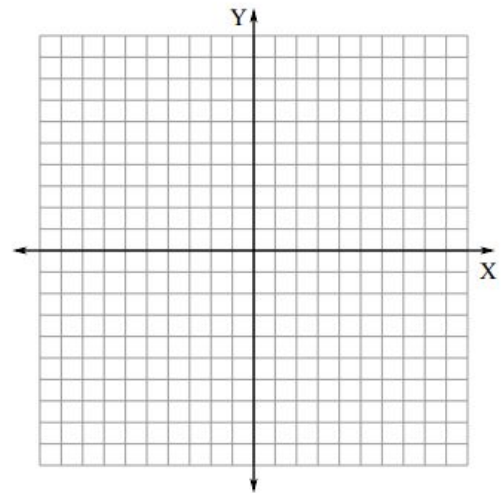
VERTEX FORM:

16. Solve Algebraically:

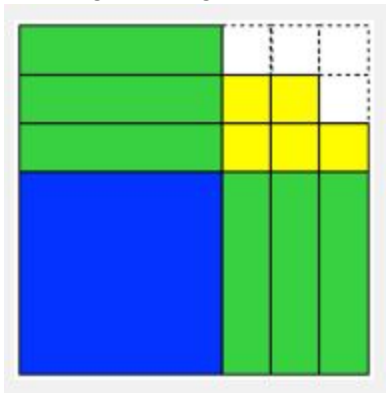
$$0 = -(x + 5)^2 + 9$$

17. Solve Graphically:

$$0 = -(x + 5)^2 + 9$$



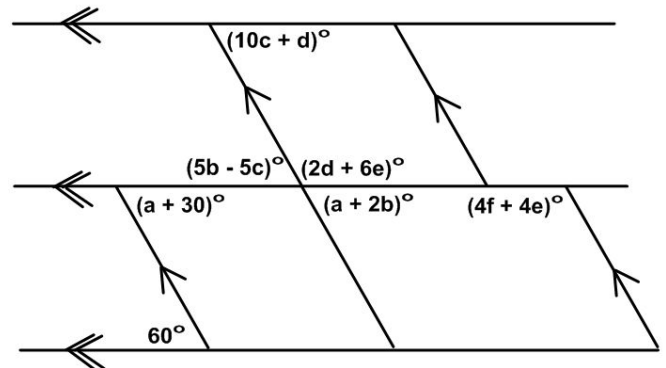
18. Write Vertex Form and Standard Form for the following tile diagram.



STANDARD FORM:

VERTEX FORM:

19. Solve for all the letters a through f. Start with the 60 degrees on the bottom left.



20. You invested \$3,000 on Jan 2006 in an account that earns 6.5% compounded annually. (exponential)  
What is the equation?

How much will you have on June 1, 2022?

When will you have \$8,000?

21. If you have a business account that has options of investing in an account that is compounded annually (Exponential) or a simple Interest account( Linear) or a Quadratic account, Which account will have the most in the long term?