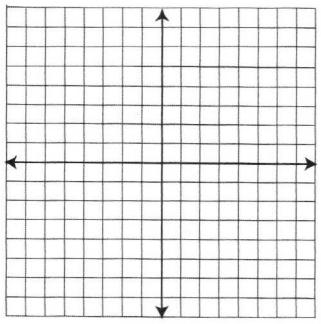
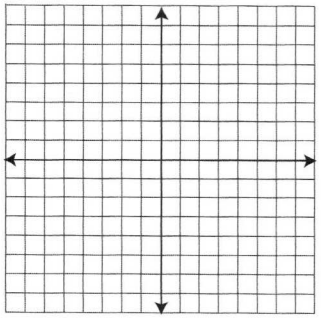
LESSON PRACTICE

Find the axis of symmetry and the vertex of each equation, and graph the parabola.

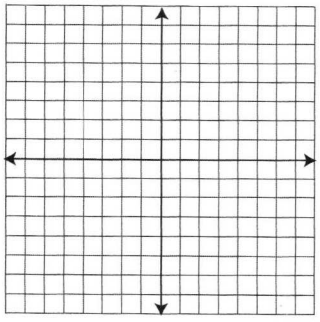
1. $Y = 3X^2 - 6X + 2$



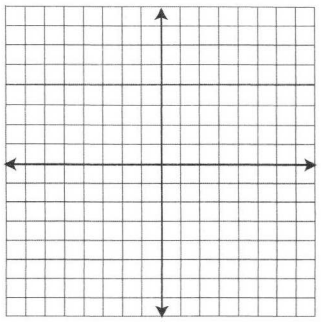
2. $4Y = 4X^2 + 8X + 4$



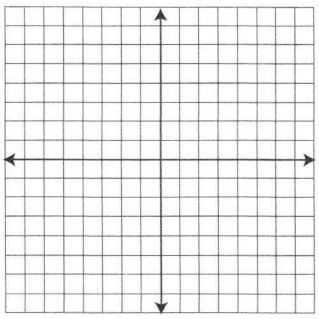
3. $Y = -X^2 + 6X - 4$



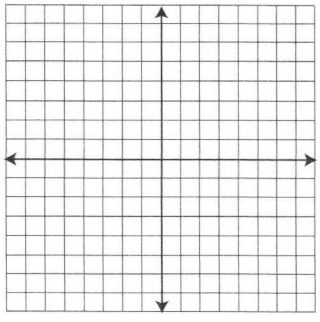
4. $Y = -4X^2 + 4X$



5. $Y = 1/4\ X^2 - 3$



6. $Y = 3X^2 + 30X + 78$



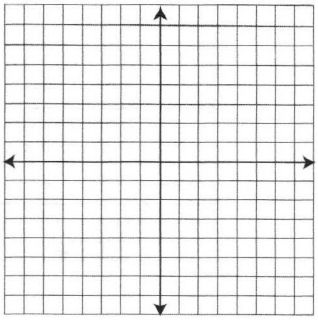
7. Alison plans to make a wall hanging. She has 36 feet of decorative edging. What is the largest rectangular hanging she can make with edging all around it?

Given $Y + 2X^2 + 5 = 3X$:

1. Find the axis of symmetry.

2. Find the vertex.

3. Sketch the graph.

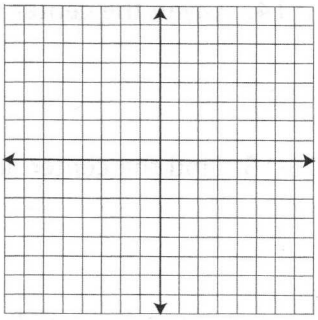


Given $Y + 2X = 3X^2 - 1$:

4. Find the axis of symmetry.

5. Find the vertex.

6. Sketch the graph.



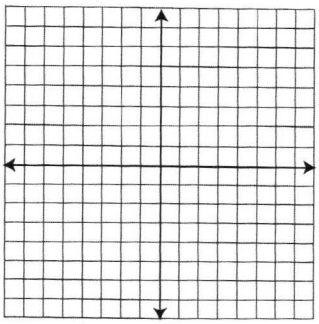
Assume $Y = AX^2 + BX + C$, and complete the statements.

7. If $A < 0$, the graph of the parabola _____.

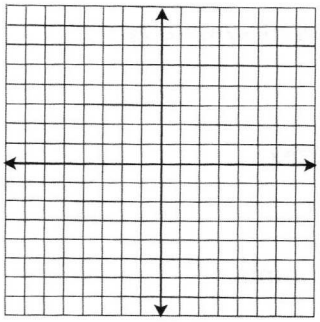
8. The axis of symmetry is $X =$ _____.

9-10. Tara wants another fenced-in area right next to Alex's for their new puppy. If Mike uses one side from the first fence, what must the dimensions of the other three sides be in order to make 120 feet of new fencing enclose the biggest area? (Refer to 25C.)

11. Graph $4Y = -2X^2 - 8$.



12. Graph $3X^2 - Y = -1$.



13. Find the center and the radius of $(X - 2)^2 + (Y - 3)^2 = 6^2$.

14. Given the center (-1, -1) and radius (7), create the equation of the circle.

15-16. Find the center and the radius of $X^2 + Y^2 = 6Y - 5$.

Given points A (–6, –4), B (–2, –4), and C (2, –6):

17. Compute the distance between points A and C.

18. Find the midpoint between points B and C.

Given $\frac{(X-1)^2}{20} + \frac{(Y+2)^2}{25} = 1$:

19. Find the center and the extremities.

20. Graph the figure.