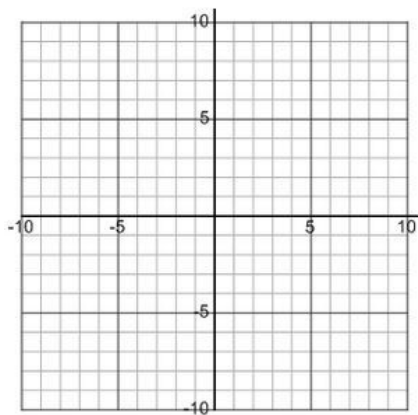
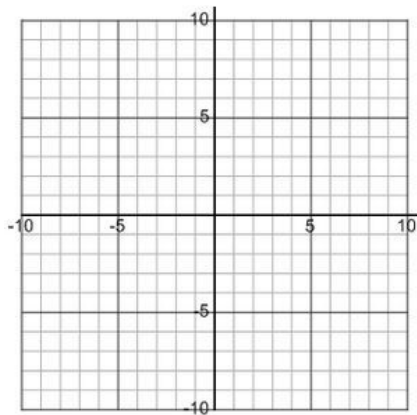


1. Graph $y = \frac{-1}{2}(x - 6)^2 + 1$



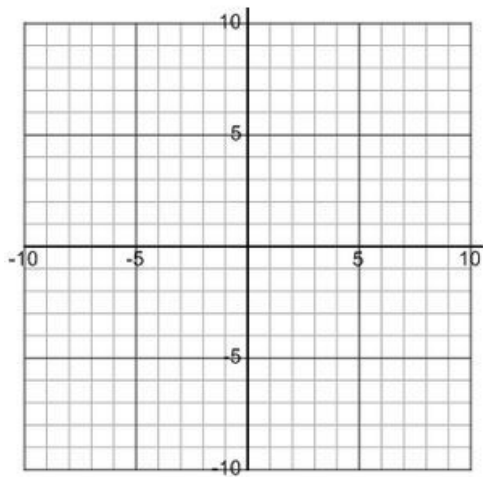
Vertex: _____ y-Intercept: _____

2. Graph $y = 3(x - 2)^2 - 10$



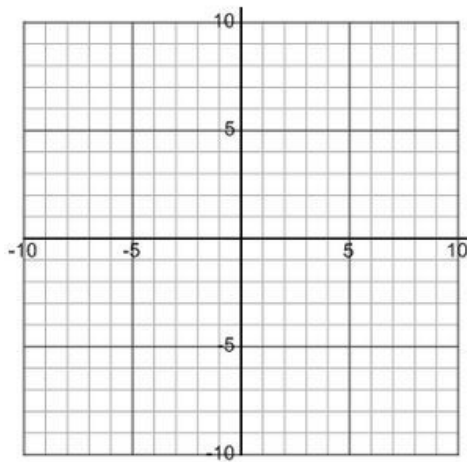
Vertex: _____ y-Intercept: _____

3. Graph $y = -(x + 4)^2$



Vertex: _____ y-Intercept: _____

4. Graph $y = 5x^2 - 2$



Vertex: _____ y-Intercept: _____

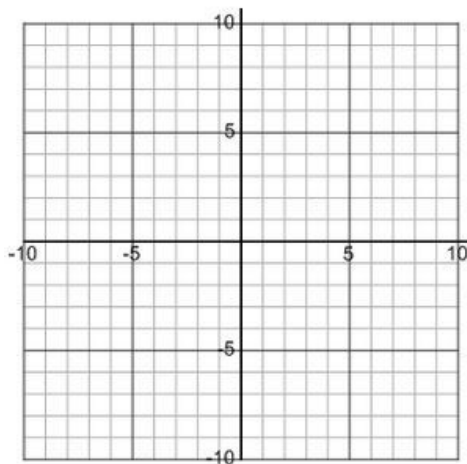
5. Graph the following on the graph at the right. Label each. By the side of each equation sketch shape, scale factor, and starting point.

a. $y = 2|x - 1| + 4$

b. $y = \frac{1}{2}(x + 5)^2 - 2$

c. $y = 2(x + 7) + 3$

d. $y = -(x + 2)^2 + 9$

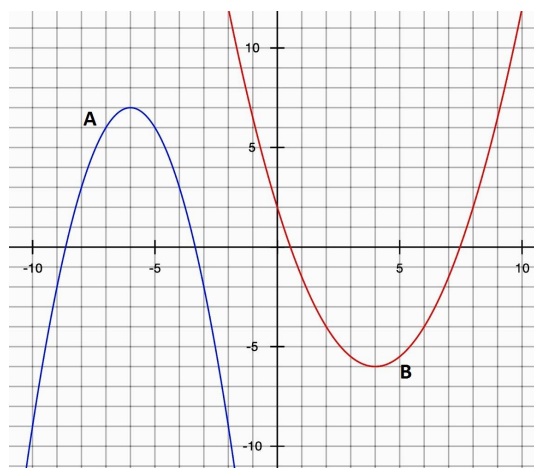


17. I am a quadrilateral whose diagonals bisect each other. My diagonals are perpendicular to each other, but my angle in the quadrilateral are not 90 degrees. What quadrilateral am I?

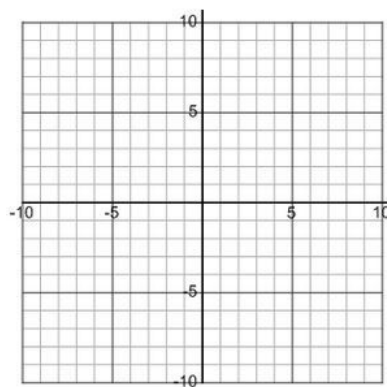
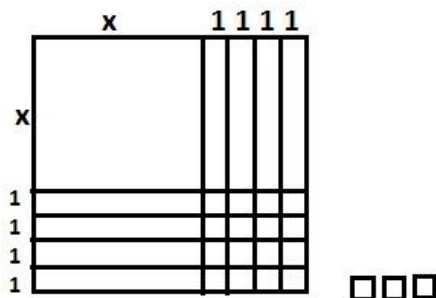
6. Write the Equation of the graph(s) on the right.

Equation of Graph A:

Equation of Graph B:



7. Write Vertex Form for the following tile picture then graph to the right.



8. Solve algebraically and graphically:

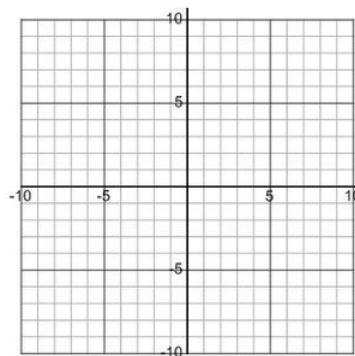
$$-2|x + 3| + 1 = 4 \text{ (show work to the right)}$$

a. $x = -9$

b. $x = -9, x = 3$

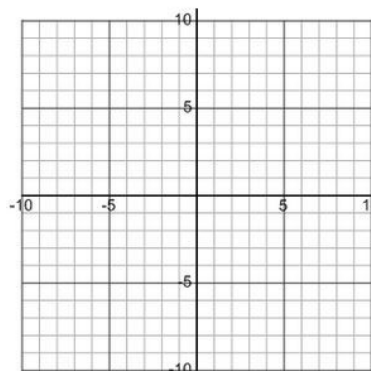
c. No solution

d. Infinitely many

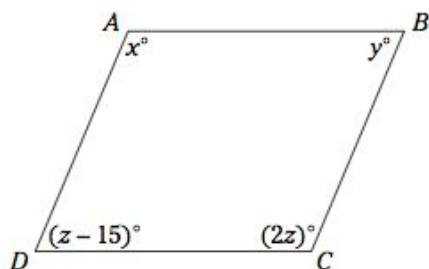


9. Solve Graphically (to the right) and Algebraically:

$$0 = 3(x - 2)^2 - 12$$



10. Solve for x, y & z.

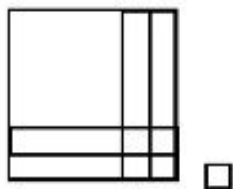


11. You invest \$5000 on Jan, 1 2005 in an account that earns 6% interest compounded annually.
Equation $y = ______ (______)$

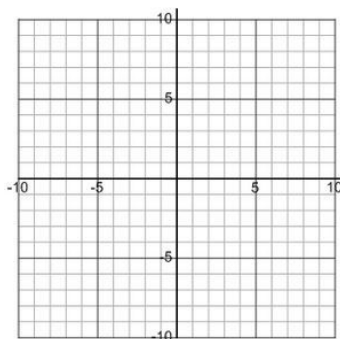
How much do you have in the year 2020?

In what year will you have doubled your investment (\$10,000)?

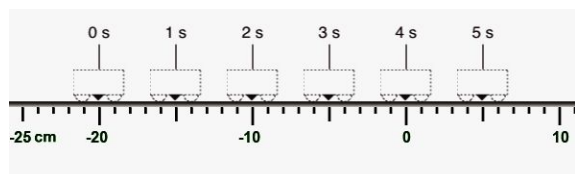
12. Write the equation of this tile representation in Vertex Form, then graph to the right.



$$y = ______ (x ______)^2 ______$$



BUGGY 1



13. Find Equations of both Buggy 1 and Buggy 2.

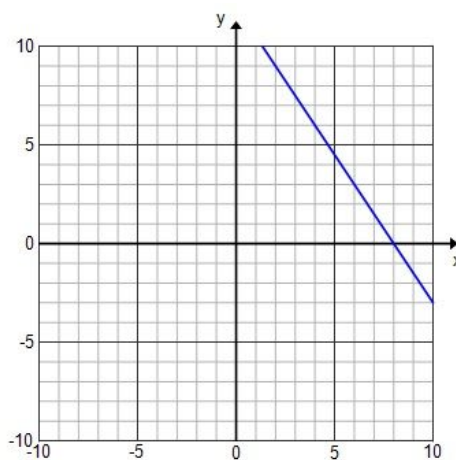
Equation for BUGGY 1:

Equation for BUGGY 2:

14. When will they Collide? Where will they collide?

15. Who will get to the 0cm first?

BUGGY 2



16. Graph

$$f(x) = \begin{cases} -4x - 2, & \text{if } x < -5 \\ -2x + 8, & \text{if } -5 \leq x < 6 \\ \frac{1}{3}x - 6, & \text{if } x \geq 6 \end{cases}$$

