Breakeven Analysis PRACTICE TEST **Name**_____
Finance Math **Period**_____

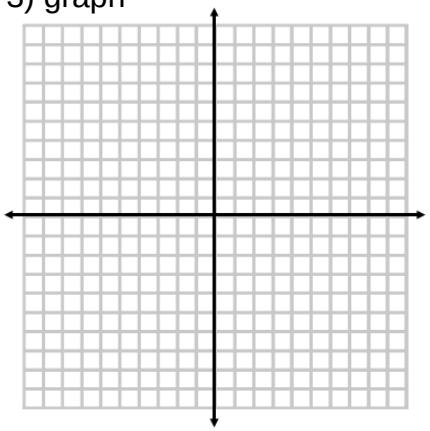
Please show all work. You may use a calculator.

Solve and graph this quadratic:
$y = -x^2 - x + 6$

1) Vertex:

2) Solution(s):

3) graph

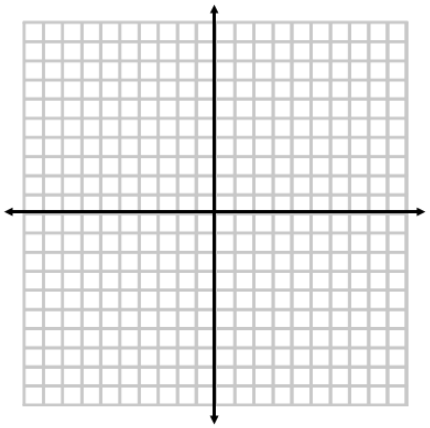


Find the equation of the **line** that passes
Through (-3,1) and (1,4).

4) Slope:

5) Equation:

6) graph



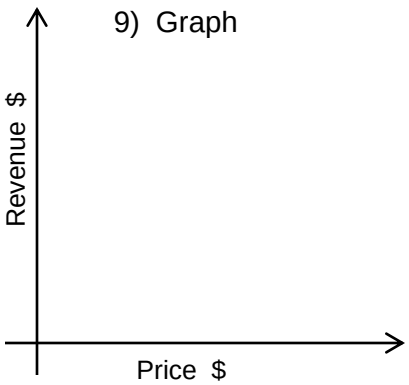
Use $C(x) = x + 5$
and $R(x) = -9x^2 + 35x - 10$

Find the two Breakeven points of this system.

7) Solution 1:

8) Solution 2:

9) Graph



10) Describe the significance of the two intersections of a cost function and revenue function. (hint: what is happening at the two points?)

11) What is happening *to the left* of the **leftmost intersection** in our breakeven analysis problems? (hint: it has to do with pricing.)

12) What is happening *to the right* of the **rightmost intersection** in our breakeven analysis problems? (hint: it also has to do with pricing.)

13. Complete a breakeven analysis on these two functions.
(Describe a pricing structure that would allow your company to make a profit.)

$C(x) = 2x + 4$
$R(x) = -x^2 + 10x - 4$

Breakeven analysis:_____

_____

_____

The student government at FWHS is selling inexpensive student desks to raise money for school activities. The expense function is $E = -200x + 10{,}000$. The revenue function is $R = -18x^2 + 800x$. *(Round all answers to the nearest penny.)*

14) At what **price** is the **maximum revenue** reached?

15) *Graph the expense and revenue functions.*

16) Determine the PRICES at the breakeven points.

17) Determine the REVENUE at the breakeven points.

Burgers at Papa's Burgeria cost $3 to make. The fixed costs are $6,000. The revenue function is the demand function times the quantity, or $R(x) = -90x^2 + 1500x + 300$. Answer the questions below. *(Round all answers to the nearest penny.)*

18) Graph the expense and revenue functions.

19) What are the two breakeven points?

20) Give advice to the owner of the Burgeria on pricing.