

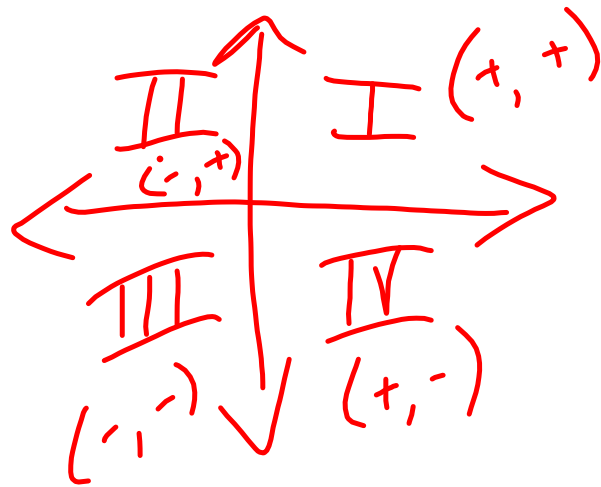
Do Now:

Given: $y = \frac{1}{4}x - 3$

$y = x^2 + 8x + 12$

In which quadrant will the graphs of the given equations intersect?

- 1) I
- 2) II
- 3) III
- 4) IV



Homework Answers

1. $(5, -5)$ $(3, -9)$

2. $(-6, 36)$ $(2, 4)$

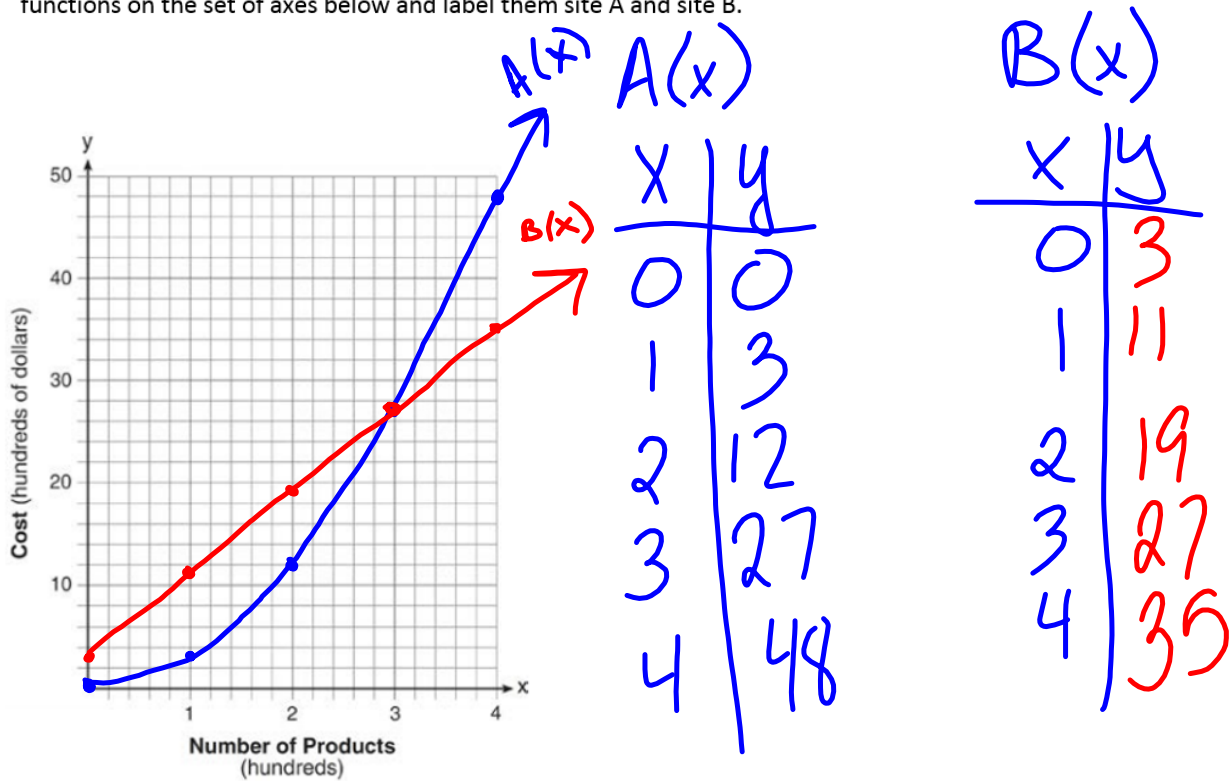
3. $(-1, 1)$

4. $(1, -5)$ $(4, -8)$

5. No solution

6. $(2, -10)$ $(1, -8)$

7. A company is considering building a manufacturing plant. They determine the weekly production cost at site A to be $A(x) = 3x^2$ while the production cost at site B is $B(x) = 8x + 3$, where x represents the number of products, in hundreds, and $A(x)$ and $B(x)$ are the production costs, in hundreds of dollars. Graph the production cost functions on the set of axes below and label them site A and site B.



State the positive value(s) of x for which the production costs at the two sites are equal. Explain how you determined your answer. If the company plans on manufacturing 200 products per week, which site should they use? Justify your answer.

300 products the two functions intersect at this point.

Site A 200 Products 12 hundred
 Site B 200 Products 19 hundred