

PROBLEM SET – Quarterly 2 Review

Question 1

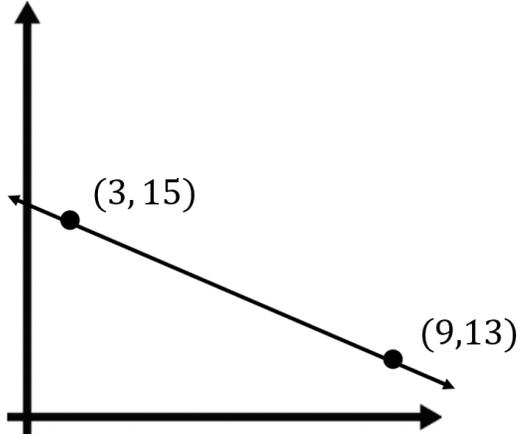
Solve algebraically:

$$3x + 2y = 11$$

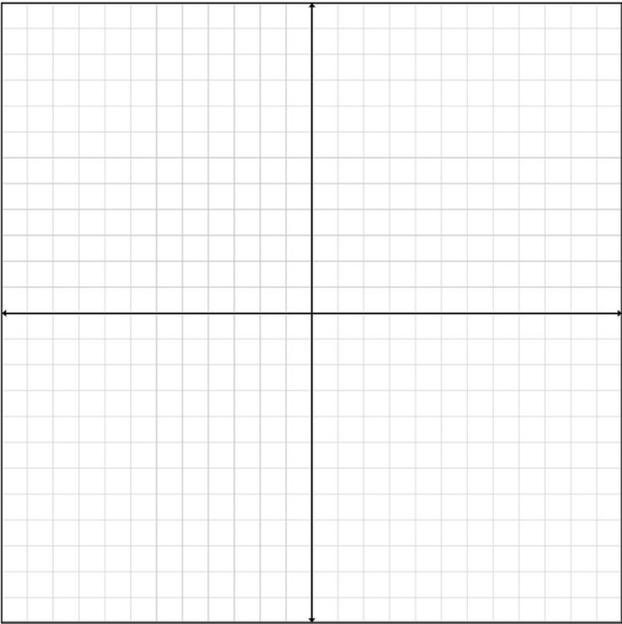
$$5x - 5y = 10$$

Question 2

1. The line below passes through the points (3, 15) and (9, 13).

 <p>(Not Drawn to Scale)</p>	<p>a) Find the slope of the line</p> <p>b) Find the equation of the line</p> <p>c) The line passes through a point with a y – <i>coordinate</i> of 10. Find the x – <i>coordinate</i> of this point.</p>
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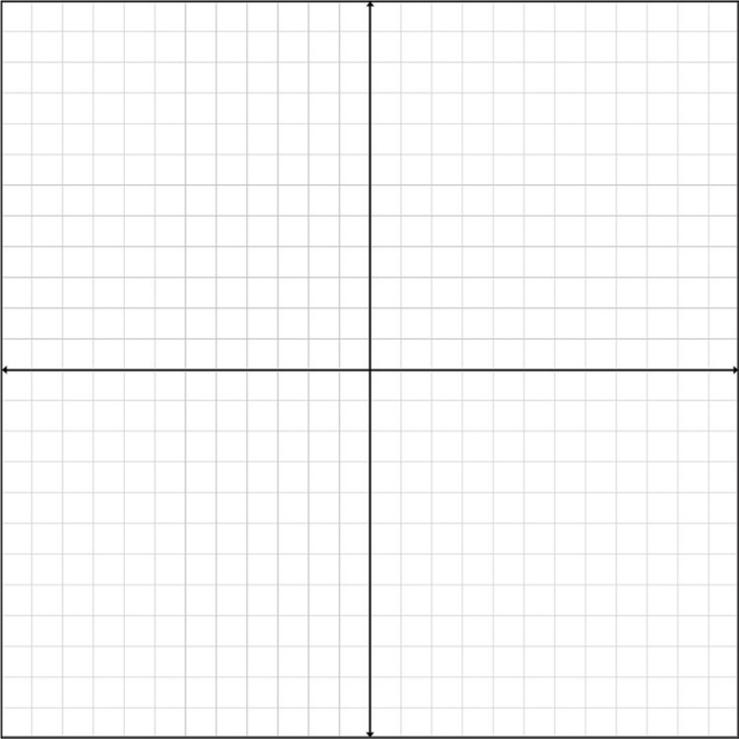
Question 3

	$x \geq 6$ $2x - 3y > 8$ <p>a) Graph the system of inequalities and label the solution on the graph</p> <p>b) State a coordinate that is a solution to the system of inequalities.</p> <p>c) Prove <i>algebraically</i> that (3, 0) does not satisfy this system of inequalities</p>
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Question 4

300 people went to a concert. People could buy either “Common Tickets” or “Advanced Tickets”. Common Tickets sold for \$18 each and Advanced Tickets sold for \$30 each. In total, \$7,500 worth of tickets were sold. How many Common Tickets were sold and how many Advanced Tickets were sold? Create and solve a system of equations.

Question 5

	$y = -\frac{2}{5}x + 1$ $6x - 6y = 36$ <p>a) Graph the system of equations and state the solution</p> <p>b) Is there infinitely many solutions, no solutions, or one solution? Explain how you know.</p>
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Question 6

Roger gets paid \$380 for his first 40 hours of work each week. After this, he receives \$15 for each additional hour he works beyond the regular 40-hour work week.

- a. Create a linear function ($y = mx + b$) to model the pay, $P(h)$, that Roger receives in a week for working h hours, where h is an integer greater than 40.
- b. Roger works 56 hours. Use your function from part a to calculate how much Roger gets paid for this work.
- c. Roger is paid \$470 the week before Christmas. Algebraically determine the number of hours Roger worked this week.