

MTH-3017

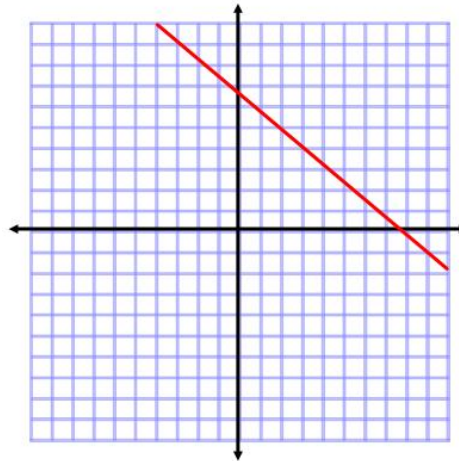
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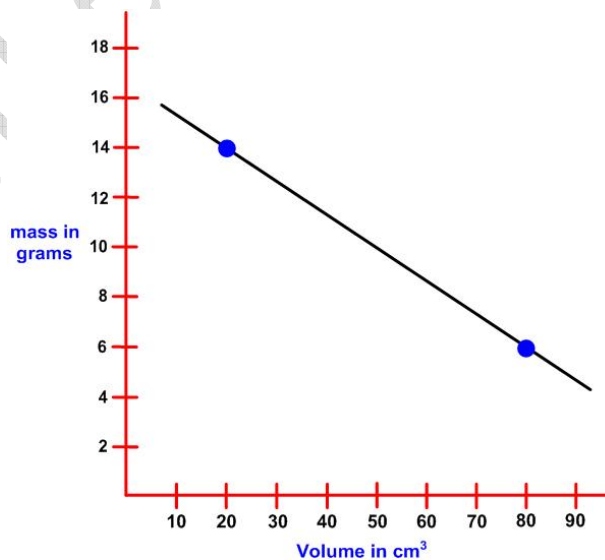
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1. For the following graph, answer both multiple choice questions. (2 marks)

- i. The slope is a) positive b) undefined c) equal to zero d) negative
- ii. The line is a) vertical b) horizontal c) increasing d) decreasing



2. For the following graph, give the slope with its unit of measure. (4 marks)



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3. Using the form $y = mx + b$, identify the slope and y-intercept of the following straight line equation. (2 marks)

$$5x = 2x - 6$$

4. Solve with a graph. Indicate the scale chosen. (10 marks)

In a chemistry lab Stephanie found that the mass of 30cm^3 of an unknown metal was 42.5g. When she used an 85cm^3 piece, the mass was 116g. If a straight line equation applies to this situation, how many cm^3 of the metal is she measuring if she finds a mass of 88g?

5. Graph the following equation. Identify three points, including all intercepts, in a table of values, and label three points on the graph. (10 marks)

$$3y = 8 - 2y$$

6. Using the form $Ax + By + C = 0$ and the formula $m = \frac{-A}{B}$, find the slope of the following straight line equation. (4 marks)

$$2.5x - 1 = -1.5y$$

7. Find the slope of the line that goes through the points $(-1/4, 3)$ and $(-5/4, 1)$. (4 marks)

8. Graph the following equation. Identify three points, including all intercepts, in a table of values, and label three points on the graph. (10 marks)

$$\frac{1}{2}x + \frac{1}{4}y = 8$$

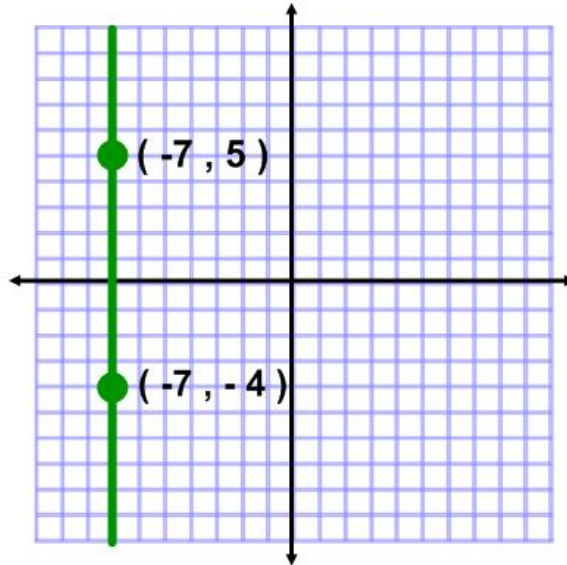
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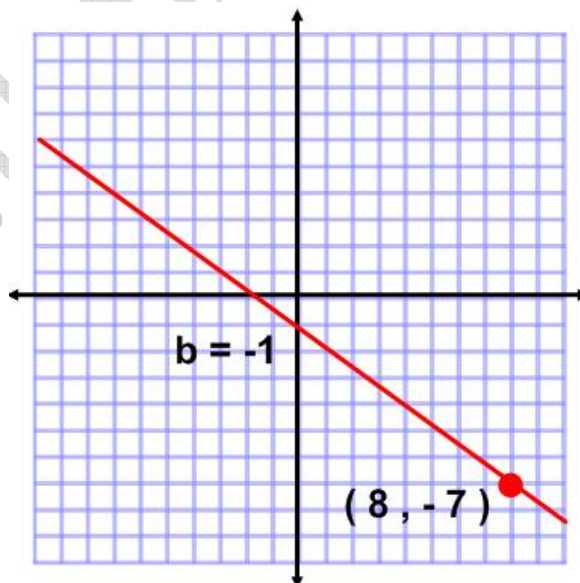
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9. Derive the equation of the following straight line. Express the equation using the $Ax+By+C=0$ format. (10 marks)



10. Derive the equation of the following straight line. Express the equation in either the $y=mx+b$ format or the $Ax+By+C=0$ format. (10 marks)



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11. Graph the straight line that goes through the point $P(2, -5)$ and has a slope of $\frac{4}{3}$.

Identify two points on the line. (4 marks)

12. Derive the equation of a straight line that passes through the point $(3, 7)$ and whose x-intercept is 3. Give the final answer in the form $Ax + By + C = 0$.

(10 marks)

13. Graph the following equation. Identify three points, including all intercepts, in a table of values, and label three points on the graph. (10 marks)

$$2x = 4y - 3$$

14. Solve with a graph. Indicate the scale chosen. (10 marks)

An elementary school has 3 Grade 6 classrooms. In the first room there are 23 students and the teacher's stress level is 17.3 units. In the second room there are 26 students and the stress level of the teacher is 19.9 units. If a straight line equation applies to this situation and the teacher's stress level in the third room is 13.0, how many students are in the third room?