

OUR LADY OF GOOD COUNSEL SSS GAYAZA

S.2 MATHEMATICS

HOLIDAY WORK

Instructions: Attempt all questions.

1. State the gradient of the following lines.
 - i. $3x+4y=12$
 - ii. $X-9y=4$
2. State the x-intercept and y-intercept of the following lines.
 - i. $3y=7x+4$
 - ii. $X=2y-1$
3. Find the equations of the lines passing through the following points.
 - i. (1.5) and (2,10)
 - ii. (12,2) and (12,12)
4. Find the equations of the lines passing through the given gradient and the given point.
 - i. Gradient $\frac{1}{3}$ (-2,6)
 - ii. Gradient $\frac{3}{7}$ (9,2)
5. Use graphical method to solve the following simultaneous equations
$$y=5x+4$$
$$y=4x+6$$
6. Find the value of x in the following equations.
 - i. $\frac{x-3}{2} + \frac{1}{3} = 4$
 - ii. $4(x-5) = 10 - 2(x+3)$
7. Solve the following inequalities.
 - i. $\frac{1}{3}(x+2) \geq \frac{1}{6}(x-1)$
 - ii. $3(1-m) < 2(5m+1)$
8. Solve the following inequalities and illustrate your solutions on the number line.
 - i. $3x-2 < 10$

ii. $4-3x \leq 10$

9. Write the integral values of x if:

i. $3 < x < 6$

ii. $0 \leq x < 10$

10. A cargo ship sail from island A to island B at a bearing of 250° and a distance of 250km from island B. it moves $N30^\circ$ a distance of 550km to island C. If 1cm represents 60km,

- a. Draw a diagram to illustrate the ship's journey.
- b. Find the distance between island C and A in centimeters.
- c. If the ship took 2 hours to travel from island A to B and $3\frac{1}{2}$ hours to travel from B to C. Calculate the respective speeds.
- d. Find the bearing of ;
 - i. Island C from A.
 - ii. Island A from C.