

**SUVA SANGAM COLLEGE**

**YEAR 12**

**MATHEMATICS**

**WORKSHEET 8**

Strand 4	<b>Coordinate Geometry</b>
Sub-Strand	<b>12.4.1 Applications of coordinate geometry</b>
Content Learning Outcome	<ul style="list-style-type: none"><li>• Solve problems involving parallel and perpendicular lines.</li><li>• Determine collinear points.</li></ul>
Reference from Text	Pg. 133 to 138

**Questions**

No.	<b>CONCEPT IN BRIEF:</b> Parallel line will have the same gradient. $m = \frac{y_2 - y_1}{x_2 - x_1}$
1.	Show that the line $y - 3 = -x$ and $2y = 5 - 2x$ are parallel.
	<b>CONCEPT IN BRIEF:</b> i. Perpendicular gradient $m_1 \cdot m_2 = -1$ ii. Equation of the line through $(x_1, x_2)$ and $(y_1, y_2)$ is $y - y_1 = m(x - x_1)$
2.	A straight line, $l$ , has the equation $2y = 4x - 3$  a) Find the gradient of the line perpendicular to line $l$ .  b) Find the equation of the line which is perpendicular to $l$ and passes through the point P (-1, 2)
	<b>CONCEPT IN BRIEF:</b> Collinear points are points which lie on the same (straight) line thus having the same gradient. $m = \frac{y_2 - y_1}{x_2 - x_1}$
3.	Three points A, B and C are collinear. If the coordinates of the three points are A (3, 4), B (2, -1) and C (0, p), find the value of p.