Carlingford High School

Mathematics
Year 10 5.2 Term 1 Test 2018

Student Name:

_____

Circle your Teacher below.

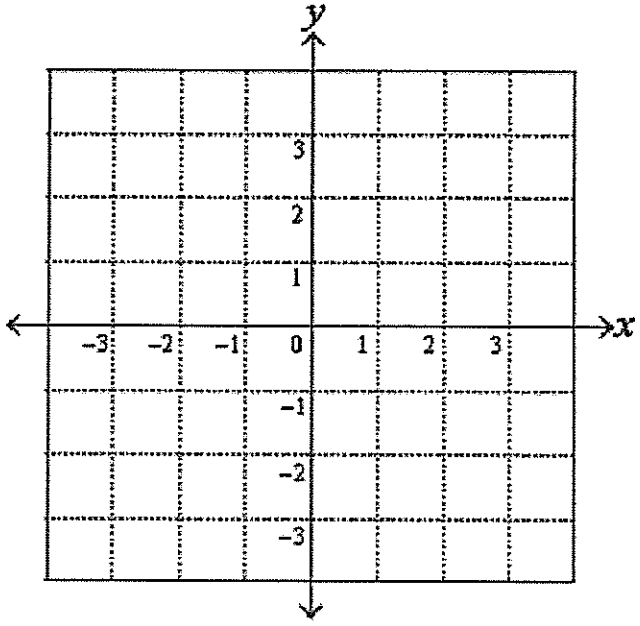
Mrs. Gamble/Hooper Mr Cheng Mrs Pennington

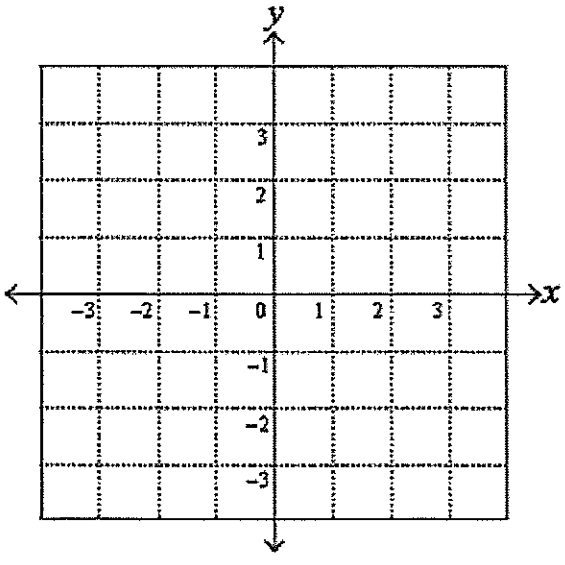
Ms Strilakos

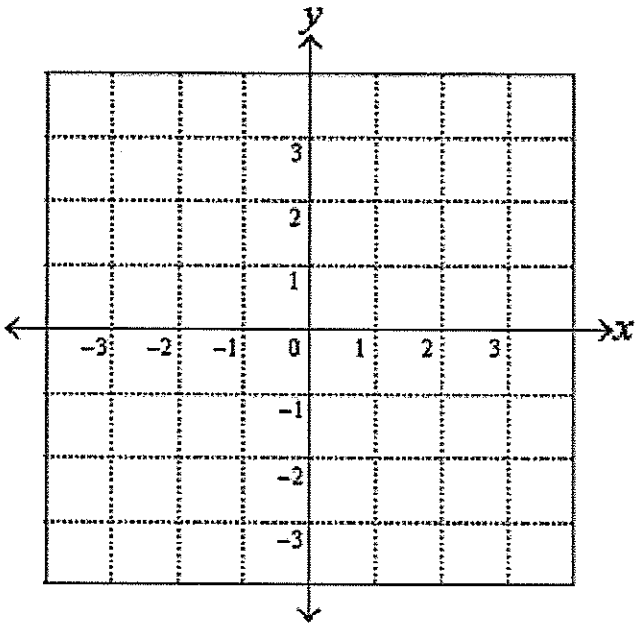
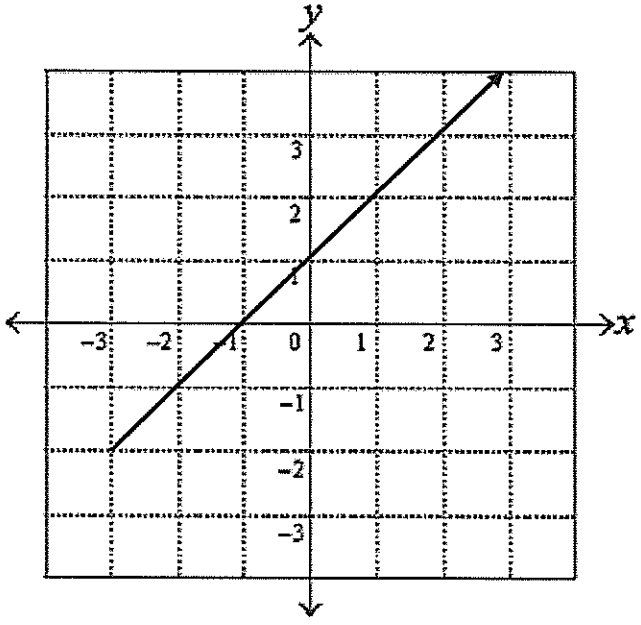
Time allowed: ***50 minutes***

- Complete the examination in blue or black pen.
- Show all necessary working.
- Attempt all questions.
- Extension questions are marked with an asterisk *.

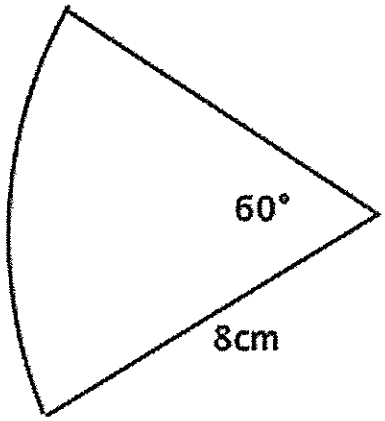
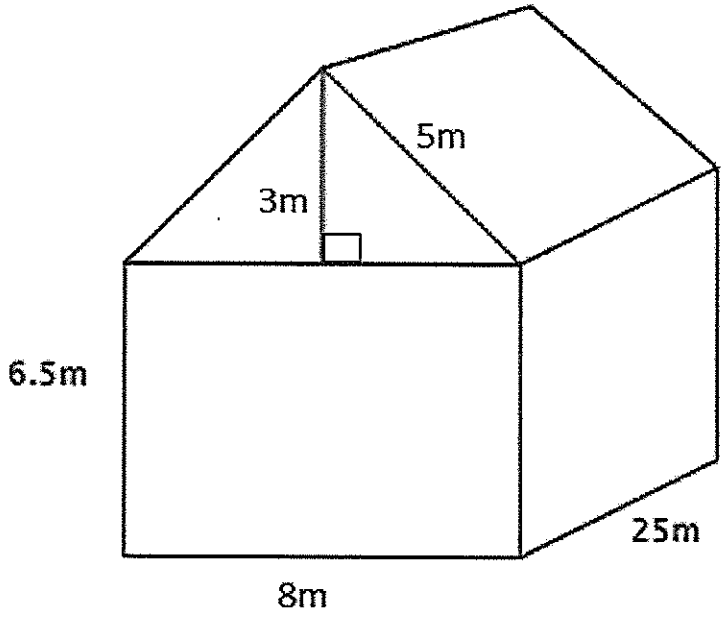
	Linear Relationships	Area & Surface Area	Total	
Questions	**/23**	**/16**	**/39**	
Extension	**/3**	**/4**	**/7**	
Total	**/26**	**/20**	**/46**	**%**

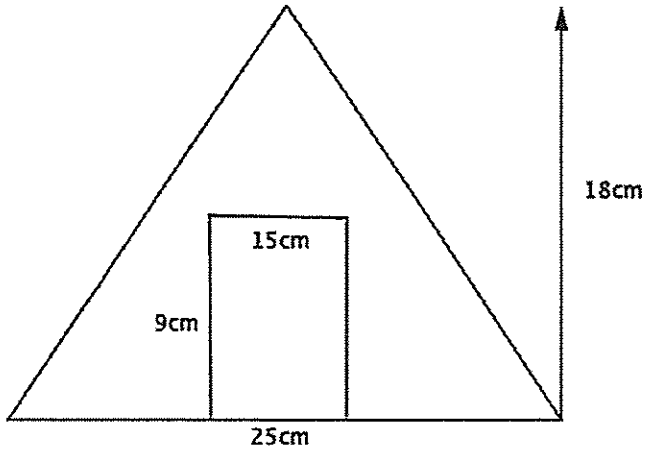
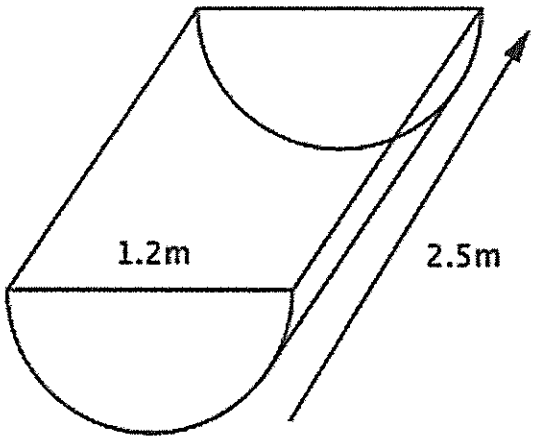
	Linear relationships	Marks
1.	a) Plot the points A (1, 4) and B (-2, -2) on the number plane. 	(1)
	b) Join the points AB and find the midpoint of AB.	(2)
	c) Calculate the length AB, correct to one decimal place.	(2)
	d) Calculate the gradient of interval AB.	(2)

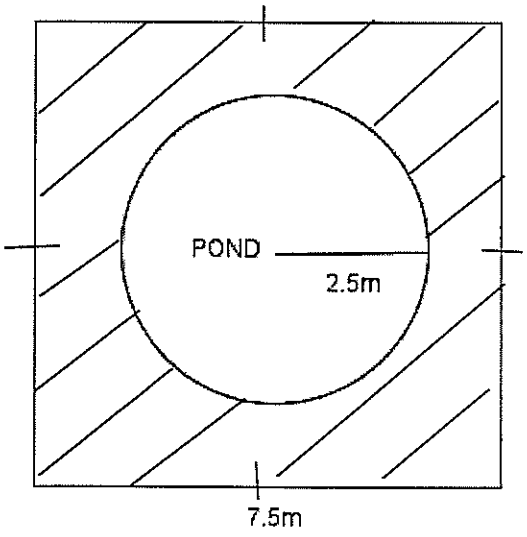
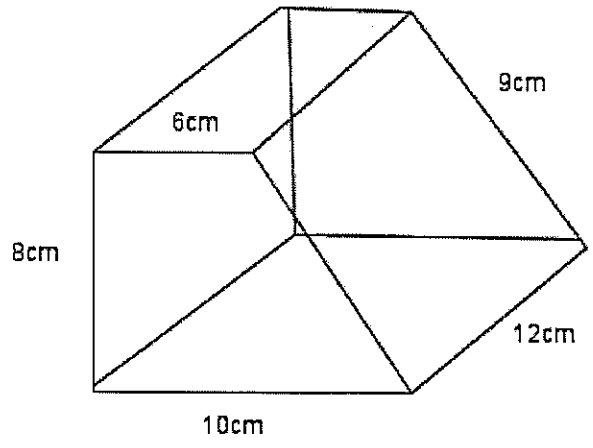
2	Complete the sentences using one of the following words {positive, gradient, perpendicular, negative, parallel} a) The equation of the line $y = 3x + 2$ is in _____ intercept form. b) The line $y = 3x + 2$ is _____ to $y = 3x - 6$. c) The line $y = -4x - 2$ has a _____ gradient.	**(3)**
3	Write the line $4x - 2y + 2 = 0$ in gradient intercept form. _____ _____ _____ _____	**(2)**
4	For the line $y = -2x + 4$ write; a) the gradient _____ b) y-intercept _____ c) the equation of the line perpendicular to $y = -2x + 4$ passing through -6 on the y-axis. _____ _____ _____	**(3)**
5	Find the equation of the line drawn through the points (-2, 3) and (1, -3). Leave in gradient-intercept form.  _____ _____ _____ _____	**(3)**

6	a) Draw y = 2 and x = -2 on the number plane  b) Write the point of Intersection of the two lines (_____,_____)	(2)
7	 a) Write the equation of the line above in Gradient Intercept form. _____ _____ b) Write the equation in general form. _____ _____	(2)

8	Find the equation of the line that is parallel to the y-axis and passes through the point (4,-7), _____ _____ _____ _____	**(1)**
***9**	Find the equation of the line perpendicular to $6x - 3y - 10 = 0$ which passes through the Midpoint of (4, 7) and (8, 13). _____ _____ _____ _____ _____	**(3)**

	Area and Surface Area	
1	Find the area of the sector below.  	**(2)**
2	Find the surface area of the greenhouse below. The floor is not included.  	**(3)**

3	Find the area of the front of the tent shown below, excluding the door.  	**(3)**
*4	A farmer is planning to make a covered food trough for his cattle. The dimensions are shown below.  a) How much metal will he needed to construct the trough to the nearest square metre.	**(3)**

	b) Sheet metal is \$15 per square metre. What is the total cost of the metal? _____ _____ _____	(1)
5	Find the area of the grass around the outside of the pond below.  _____ _____ _____ _____	(2)
6	 	

	a) Draw the net of the trapezoidal prism above in the space below.	**(1)**
	b) Find the Surface area of the Trapezoidal prism.	**(3)**
7	Fill in the gaps {area, circles, volume, sector} a) Surface Area is the total _____ of all faces of a solid. b) A _____ is part of a circle?	**(2)**

End of Examination