HILLCREST HIGH SCHOOL

GRADE 9 **NOVEMBER EXAMINATION 2016**

MATHS CALCULATOR
PAPER 2

TIME : 1 HOUR **MARKS : 75**

EXAMINER : MRS WOODROW
MODERATOR : MRS COLE

Gr 9 MATHEMATICS NOVEMBER PAPER 2							
Name :				Date :			
Teacher :				Total	Paper 1	Total	%
Q1 (26)	Q2 (15)	Q3 (22)	Q4 (12)	75	140	215	

INSTRUCTIONS TO CANDIDATES

1. This paper consists of 4 questions.

2. Answer all questions on this **QUESTION PAPER**, **NO** additional paper will be provided.

3. **ALL CALCULATIONS MUST BE SHOWN CLEARLY**.

4. An approved calculator (non-programmable and non-graphical) may be used unless stated otherwise.

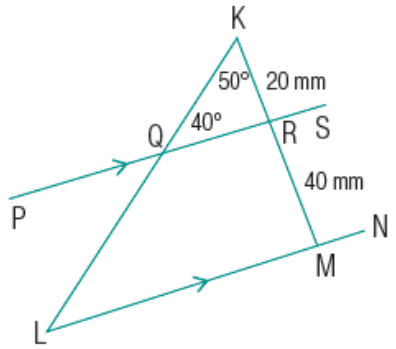
5. All final answers must be rounded off correct to **TWO decimal places** unless stated otherwise.

6. Indicate units of measurement, where applicable.

7. Write neatly and legibly.

1 QUESTION 1

1.1 In the Diagram shown draw line to join PL so that PL ∥ KM and PL = KR = 20mm, PS ∥ LN, $K\hat{Q}R$ = 40° and $Q\hat{K}R$ = 50°. KL = 100mm and RM = 40mm. Answer the following questions :-



1.1.1 Calculate, with reasons(s), the size of $K\hat{R}S$. (3)

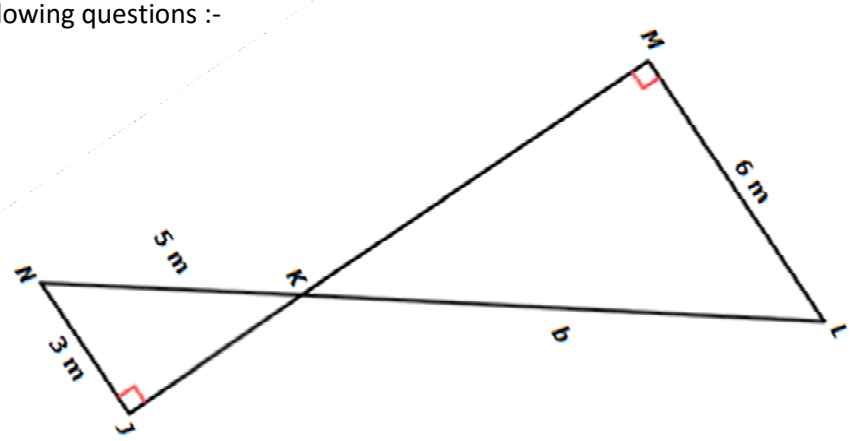
1.1.2 Prove that ΔKRQ ≡ ΔLPQ. (4)

1.1.3 Calculate the length of LM. (4)

1.1.4 Prove that KML is a right-angled triangle. (4)

1.1.5 Calculate the area of ΔKLM in cm^2. (4)

1.2 In the Diagram shown below ML ∥ NJ. ML = 6 m, NK = 5 m and NJ = 3 m. Answer the following questions :-



1.2.1 Show that $\Delta KML \ /// \ \Delta KJN$ (4)

1.2.2 Calculate b. (Show all working) (3)

[26]

2 QUESTION 2

2.1 A(-4;3), B(0;1) and C(6;-2) are points on a straight line ABC. Determine the equation of the line. (4)

2.2 Plot the following points onto Annexure 1 Grid supplied at the back of the paper.
(NB : There are two questions you have to complete on the graph paper)

2.2.1 Plot ΔABC with vertices A (-5;3), B (-2;5) and C (1;2). (4)

2.2.2 Draw the image of A'B'C' on the same set of axis as 2.2.1, reflected about the y-axis. (4)

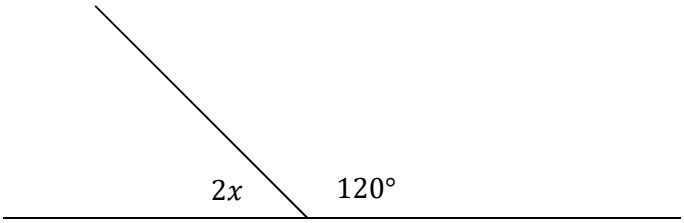
2.2.3 If ΔABC is reflected about the line y = x, give the coordinates of its new position A", B" and C" (3)

A" ( )
B" ( )
C" ( )

[15]

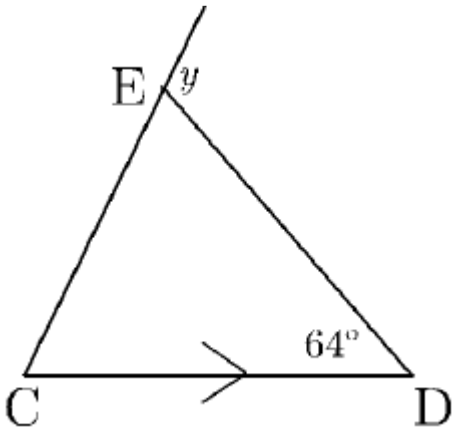
3 QUESTION 3

3.1 Calculate the value of x :- (3)



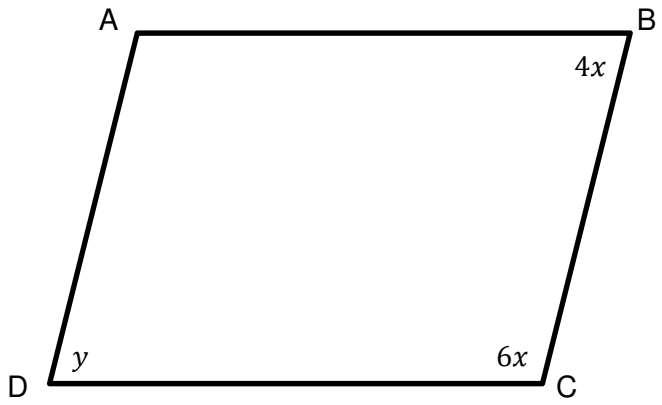
STATEMENT	REASON

3.2 Calculate y if $\hat{C}$ = 57° (2)



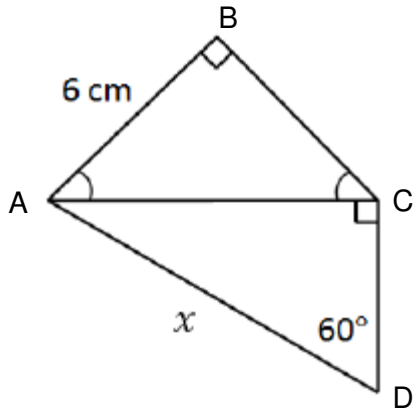
STATEMENT	**REASON**

3.3 ABCD is a parallelogram with AD // BC and AB // DC. Calculate the values of x and y. (5)



STATEMENT	**REASON**

3.4 In Isosceles ΔABC, AB = BC and Right angled ΔACD, CD = 5cm. Calculate the length AD. (7)



STATEMENT	REASON

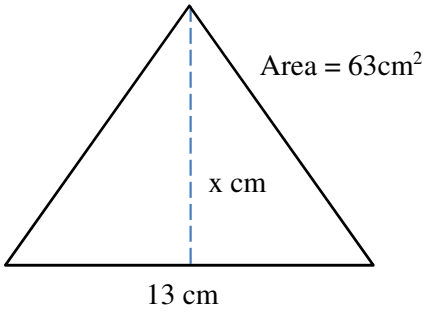
3.5 Calculate the area of quadrilateral ABCD given in 3.4 above. (5)

[22]

4 QUESTION 4

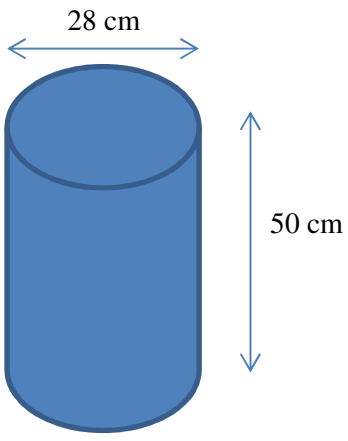
4.1 Determine the length of the missing dimensions.

4.1.1 (3)



4.1.2 If the area of the following picture is 706,85 cm². Calculate the radius? (3)

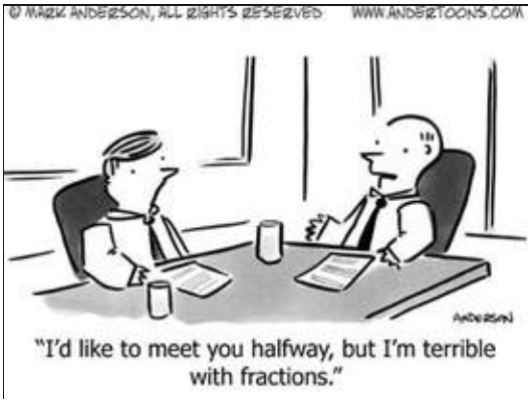
4.2 Calculate the Volume of the cylinder if the diameter is 28 cm and the height is 50 cm (3)



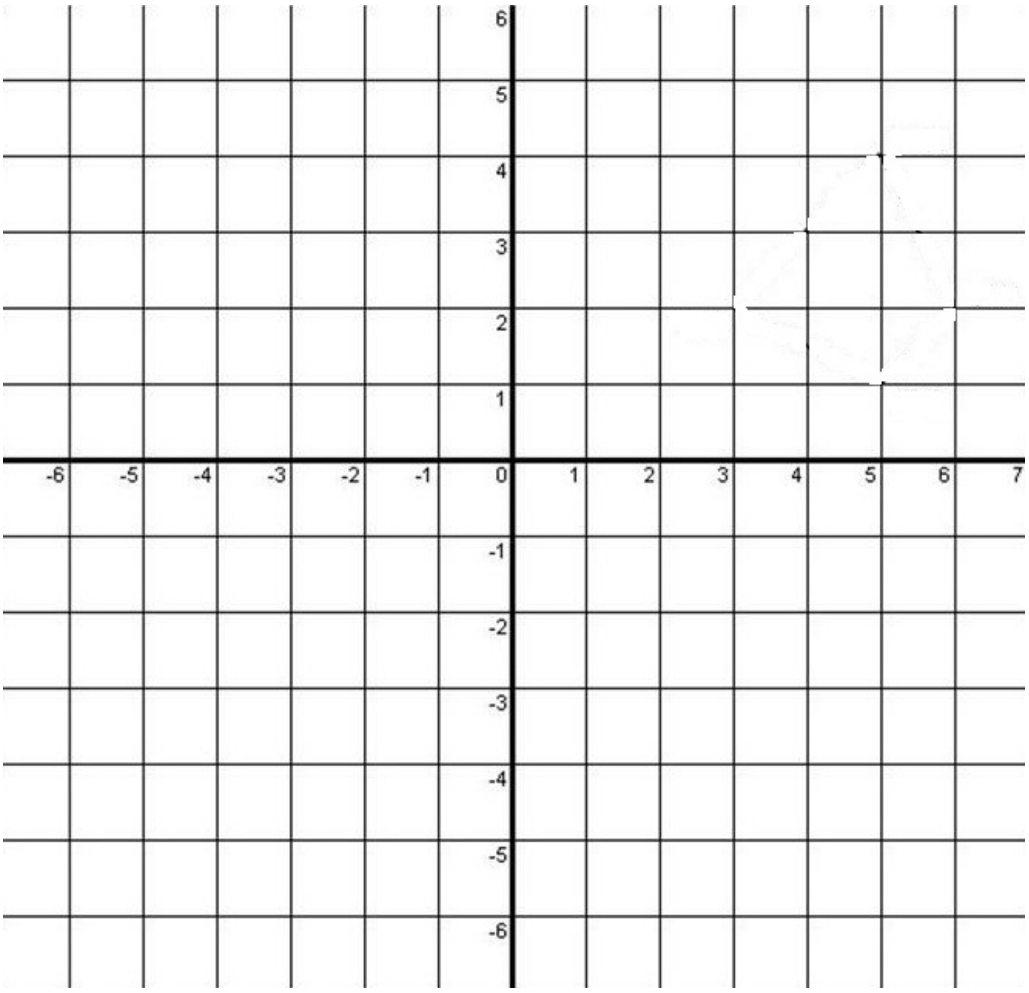
4.3 Calculate the Surface Area of the cylinder given above in 4.4. (3)

[12]

GRAND TOTAL **[75]**



ANNEXURE 1
Grid for Question 2.2.1 and 2.2.2



GRADE 8 MATHS PAPER 1 - 2 HOURS - 175 MARKS	
Topic	**Marks**
Numbers and Integers	47
Ratio and Fractions	25
Algebra	50
Measurement	18
Data Handling	12
Equations	23

GRADE 8 MATHS PAPER 2 - 1 HOUR 90 MARKS	
Topic	**Marks**
Space and Shape	31
Triangles	21
Circles	13
Perimeter, Area and Volume	25

Gr 9 November Exam Breakdown

PAPER 1	
Subject	**Marks**
Multiple Choice	20
Algebra	46
Distance/speed/time	4
No. Patterns	8
Finance	12
Functions	20
Statistics	25
Probability	5
TOTAL	140

PAPER 2	
Congruency/Similarity	26
Transformations	15
Geometry	22
Perimeter/Area/Volume/Surface Area	12
TOTAL	75