

The City School

Unified End of Year Examinations 2017-18



SCHOOL
NAME

INDEX
NUMBER

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MATHEMATICS

May 2018

CLASS 7

2 hours

READ THESE INSTRUCTIONS FIRST

- Write your index number and school/campus clearly in the space provided.
- Read and follow the instructions of the questions given.
- Answer **all** question in the spaces provided.
- Check your answer paper before you hand it in.
- Calculators are **not** allowed.
- Marks for each section are shown below.
- Do not use staples, paper clips, glue or correction fluid.

----- For Examiner's use only -----

	Section A : Computation (50)					Section B: Problem Solving (50)					Total
	1	2	3	4	5	6	7	8	9	10	
Question #											
Max. Marks	10	10	10	10	10	10	10	10	10	10	100
Marks Obtained											

Percentage		Grade	
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Invigilated by: _____ **Marked by:** _____ **Marks tallied by:** _____

Q.1 Multiple choice questions.

[/10]

i. 5% increase in the \$100 means

- A. \$5
- B. \$95
- C. \$100
- D. \$105

ii. 20% of 2000 is

- A. 100
- B. 400
- C. 2400
- D. 1600

iii. 4 hours : 100 minutes expressed in the simplest form is

- A. 5 : 12
- B. 2 : 50
- C. 12 : 5
- D. 4 : 100

iv. In inverse proportion, when one quantity increases the other quantity

- A. Increases
- B. Decreases
- C. Remains same
- D. None of the above

v. 20 litres decreased by 45% is

- A. 11 litres
- B. 9 litres
- C. 14 litres
- D. 29 litres

- vi. 23 12 converted to 12-hour clock notation is
- A. 23: 12 pm
 - B. 11:12 am
 - C. 11:23 am
 - D. 11: 12 pm
- vii. The sum of two supplementary angles is
- A. 180°
 - B. 270°
 - C. 90°
 - D. 360°
- viii. The gradient of the line $y = 5x + 4$ is
- A. $5x$
 - B. 5
 - C. $4y$
 - D. 4
- ix. The sum of exterior angle of an n sided polygon is equal to
- A. 180°
 - B. 270°
 - C. 300°
 - D. 360°
- x. Rectangle has _____ lines of symmetry
- A. 0
 - B. 1
 - C. 2
 - D. 4

Q.2

[10]

a. Fill in the blanks.

[/5]

- i. The most frequent number of a set of data is called its _____.
- ii. If the base angles of an isosceles triangle are 25° then the third angle _____.
- iii. Vertically opposite angles are always _____.
- iv. The sum of interior angles of a pentagon is _____.
- v. 5430 Litres equal to _____ cm^3 .

b. True or False

[/5]

- i. Each angle of an equilateral triangle is equal to 45° . _____
- ii. The gradient of a straight line measures the ratio of vertical change to the horizontal change. _____
- iii. Parallel lines are formed when two straight lines intersect each other. _____
- iv. Midnight converted to 24 hour notation is 12 00. _____
- v. Angle bisector means dividing the angle into **three** equal parts. _____

Q.3

[10]

a. There are 28 bed sheets and 24 pillow covers in the cupboard. Find

- i. the ratio of bed sheets to pillow covers in the simplest form.

[/1]

- ii. the ratio of pillow covers to the total items in the cupboard.

[/2]

b. If 5 workers can paint a building in 20 days.

How many days will 4 workers take to paint the same building?

[]/2]

c. Find the cost of 8 books when 6 books cost \$48.

[]/2]

d. My car travels 128 km on 12 litres of petrol.

How far do I expect to travel on a full tank of 30 litres?

[]/3]

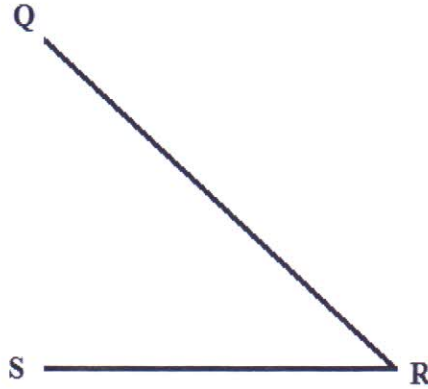
Q.4

[10]

a. Construct:

i. Angle bisector of \widehat{QRS}

[/3]

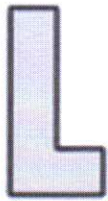


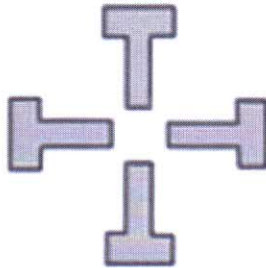
ii. Perpendicular bisector of the line LM measuring 7 cm.

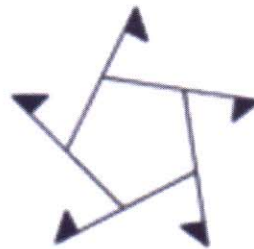
[/3]

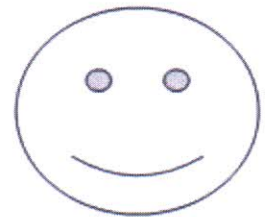
b. State the order of rotational symmetry of the following shapes.

[/4]









Q.5

[10]

- a. Write an expression to represent
"five less than the product of eight and a number"?

[]/2

- b. Given that the value of $p = -4, q = 3$
Find the value of 'S' in the equation $S = -4p + 2q$

[]/2

- c. When a number is doubled and 5 is subtracted from the result, the answer is 37.
Find the number.

[]/3

- d. The sum of three consecutive numbers is 156. Find the three numbers.

[]/3

Q.6. [10]

a.i A lorry arrived in town B at 17 45 after travelling for 8 hours and 50 minutes.

Find the time the lorry started the journey. [2]

ii. If the lorry reached 35 minutes early, at what time was it scheduled to arrive? [2]

b. The weight of a baby was 14kgs.

After some time the weight of the baby was increased by 30%.

Find the new weight. [3]

c. After 6% deduction in bill, \$282 still remains to be paid.

Find the original bill. [3]

Q.7

[10]

a. The goals of Team A during a football tournament are given below.

6, 3, 4, 4, 5, 2, 1, 0, 6, 8, 4, 5

Calculate

i. The mean number of goals []/2

ii. The median of the goals []/1

iii. The mode of the goals []/1

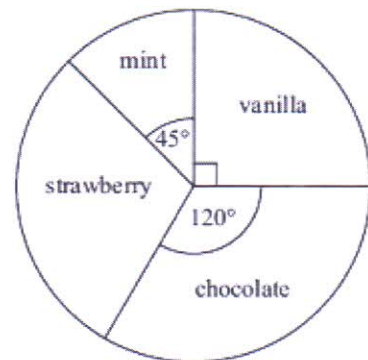
b. Some children were asked to name their favourite flavour of ice cream.

The pie chart shows some information about their answers.

15 students chose *mint* to be their favourite flavour.

Calculate

i. The angle of sector representing strawberry. []/2



ii. The total number of students who participated in the survey. []/2

iii. What *percentage* of students selected Chocolate? []/2

Q.8

[10]

a. Calculate the exterior angle of a hexagon.

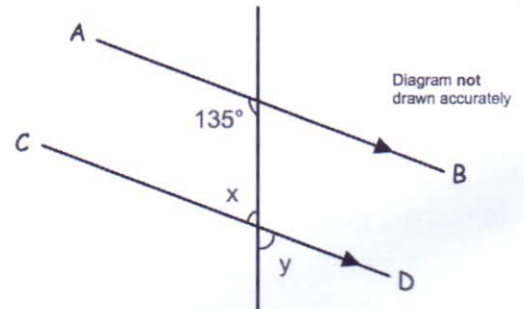
[]/2]

b. In the diagram AB is parallel to CD.

[]/4]

i. Calculate the size of the angle marked x.

Give a reason for your answer



ii. Write down the value of y. _____

Give a reason for your answer: _____

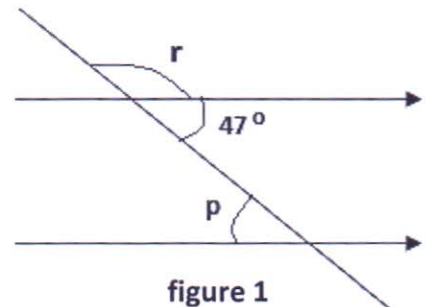
c. Find the value of the unknown variables in figure 1. Also give a reason for your answer.

[]/4]

i. p?

$p^\circ =$ _____

Reason: _____



ii. r?

$r^\circ =$ _____

Reason: _____

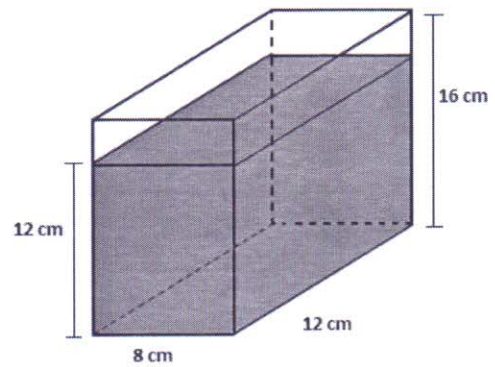
Q.9

[10]

- a. An open rectangular tank of length 12 cm, width 8 cm and height 16 cm contains water up to a height of 12 cm. Calculate:

The volume of water in litres;

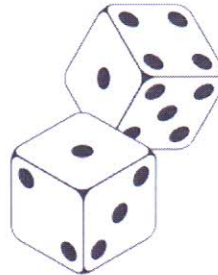
[/4]



- b. Given that the surface area of a cube is 96 cm^2 . Find

i. The length of each side of the cube

[/3]



ii. If the length of the side of a similar cube is 10 cm, calculate its volume.

[/3]

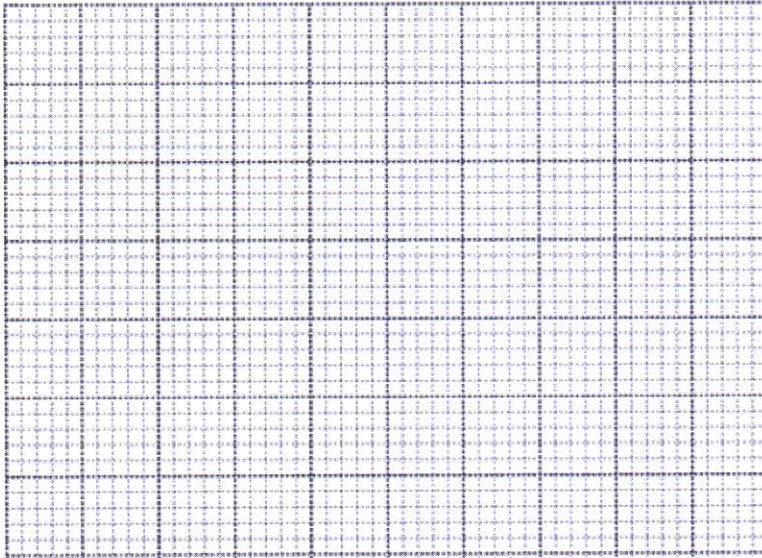
Q.10

[10]

a. Draw the graph of the following linear function

$$y = -2x + 6$$

[/5]

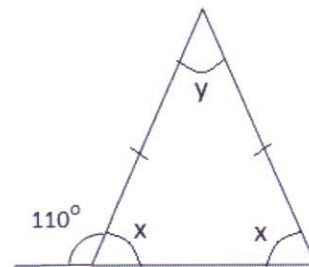


x			
$y = -2x + 6$			

b. Find the value of x and y in the given isosceles triangle.

$x =$ _____

$y =$ _____



[/1]

[/2]

c. Calculate the sum of interior angles of a 7 sided polygon.

[/2]