

City International School

ANNUAL EXAMINATION 2015 - 2016

Date : 08/03/2016

Std : VIII

Subject : Mathematics

Marks : 80

Time : 2½ hrs

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this paper is the time allowed for writing the answers.

Attempt all questions from Section A and any four questions from Section B.

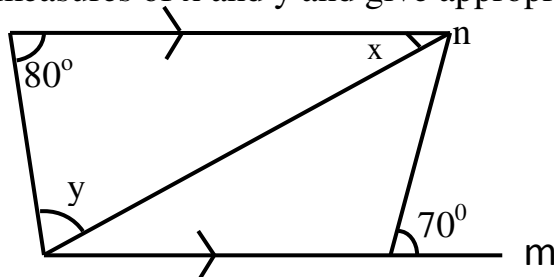
The intended marks for questions or parts of questions are given in brackets ()

SECTION – A [40 MARKS]

(Attempt all questions in this section)

- Q. 1** a. A dealer marks his goods 40% above the cost price and allows a discount of 15%. Find his profit percent. (4)

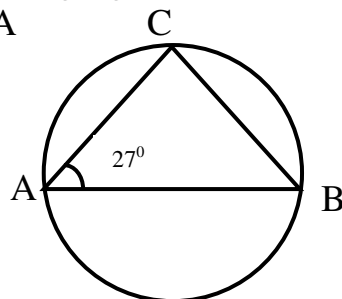
- b. Find the measures of x and y and give appropriate reasons when $m \parallel n$ (3)



- c. The length of a diagonal of a cube is $11\sqrt{3}$ cm. Find. (3)
- the length of an edge of the cube
 - volume
 - surface area of the cube.

- Q. 2** a. Simplify. $\frac{3}{a+b} - \frac{2}{a-b} + \frac{5}{a^2+b^2}$ (4)

- b. In the adjoining figure, AB is the diameter of a circle. If $\angle CAB = 27^\circ$, find $\angle CBA$ (3)



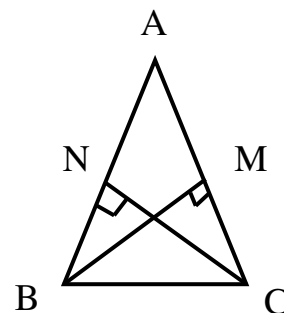
- c. The following table shows the daily pocket money of 44 students of class VIII of a school: (3)

Pocket money (in ₹)	3	5	8	10	15	17
No. of students	4	7	10	12	8	3

Find the mean pocket money per day and also the mode.

Q. 3 a. The dimensions of a cuboid are in the ratio 4:5:6 and its surface area is 5328m^2 . Find its dimensions. (3)

b. In the adjoining figure $AB=AC$. Prove that $BM = CN$. (3)

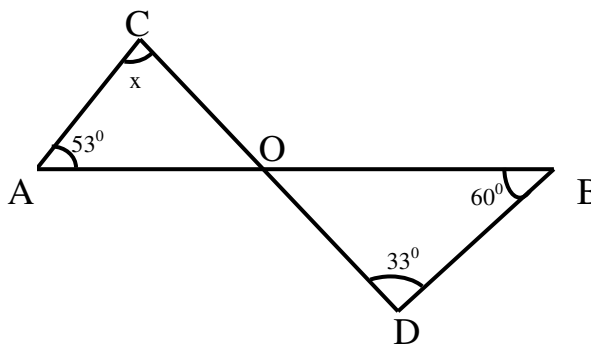


c. What is the sum of money that will yield ₹ 24.75 as simple interest in 2 years and 3 months at a rate of $3\frac{1}{7}\%$ per annum. (4)

Q. 4 a. Solve the following pair of simultaneous linear equations graphically. (4)

i. $2x - y - 1 = 0$ ii. $x - 2y + 1 = 0$

b. Find the value of x . (3)



c. Construct an isosceles right angle triangle ABC such that its hypotenuse $BC = 6\text{cm}$. (3)

SECTION – B [40 MARKS]

(Attempt any four questions in this section.)

Q. 5 a. A shopkeeper purchased 60 articles at ₹150 each. He sold one third of them at a loss of 6%. At what price must he sell the remaining articles so as to gain 10% on the whole deal? (4)

b. Solve the following simultaneous equations (using elimination/substitution method) (3)

i. $3x - 2y = 5$ ii. $5x - 3y = 1$

c. Construct a triangle ABC given that $BC = 5.2\text{ cm}$, $AB = 4.4\text{ cm}$ and $\angle B = 60^\circ$. Also construct the incircle of ΔABC . (3)

Q. 6 a. Reduce the following algebraic fractions to the lowest terms $\frac{12x^2 - 3}{10x^2 + 9x - 7}$ (4)

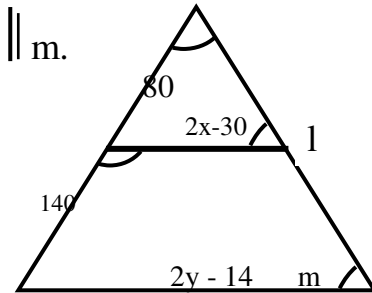
b. ₹2400 becomes ₹2976 in 3 years at a certain rate of simple interest. What sum of money will become ₹5016 in 4 years at the same rate of interest. (3)

- c. The dimensions of a rectangular wooden box are 98cm by 84cm by 77cm. If the box is 2cm thick all around, find (3)
- The internal dimensions of the box
 - The capacity of the box
 - Volume of the wood used in making the box.

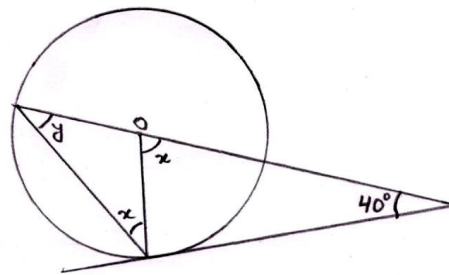
Q. 7 a. Solve : i. $41x + 53y = 135$ ii. $53x + 41y = 147$ (4)

- b. Calculate the compound interest on ₹12500 for 2 years at 6% per annum. Also find the amount. (3)

- c. Find the measure of the lettered angles when $l \parallel m$. (3)



- Q. 8** a. In the following figure, O marks the centre of the circle. Find the size of each lettered angle. (3)



- b. Construct a grouped frequency distribution table from the following list, which shows the daily wages (in ₹) of 30 workers of a factory. (3)

290, 368, 298, 310, 368, 292, 342, 311, 290, 300, 320, 319, 304, 402, 318, 406, 295, 354, 298, 310, 340, 380, 320, 408, 315, 358, 336, 390, 400, 395.

c. Simplify. $\frac{2x}{x^2-4} + \frac{1}{x^2+3x+2}$ (4)

- Q. 9** a. The marked price of a pair of shoes is ₹1600. (4)

- If it is sold for ₹1472, find the discount and the discount percent.
- If it is sold at a discount of 12%, find the discount and the selling price.

- b. Plot the following points. (3)

- {2,4}
- {-4,3}
- {-3,-4}
- {0,5}

- c. In the given figure, ΔABC is inscribed in a circle with centre O. If $\angle ABC = (3x-7)^\circ$ and $\angle ACB = (x+13)^\circ$, find the value of x. (3)

