Half Yearly Examination - 2018-19

Mathematics

Class : VII

Time : 2 Hrs. + 15 min. **Full Marks : 80**

(Section A)

Q1. Mental Maths (1x10=10)

i. The addition inverse of $\frac{-2}{3}$ is ____

ii. The simplest ratio of 10 kg and 100 kg is ____

iii. The perpendicular drawn from the vertex of a triangle to the opposite side is known as ____

iv. A triangle whose angles are 40^{o}, 40^{o} and 100^{o} is an ____ triangle.

v. A part or whole of a sample space is called an ____

vi. A bar graph is a ____ representation of data using bars of equal width with uniform spaces between them.

vii. $|-4| + |-5| \square |4-5|$ (put >, <)

viii. 36.457 when rounded to the nearest hundredth is ____

ix. $(0.2)^3 + 0.1$ = _____

x. (-22) x (-5) + 10 =_____

Q2. Choose the correct option (1x10=10)

i. (-182) ÷ -14 = _____ (13/-13)

ii. The reduced form of $\frac{24}{-18}$ is ____ $\left(\frac{4}{-3}/\frac{4}{3}\right)$

vii. If two legs of a right angle triangle measure 12 cm and 35 cm, find its hypotenuse.

viii. Express 3/7 as a recurring decimal

ix. Draw a number line and mark $\frac{13}{5}$ and $\frac{-22}{7}$ on it.

x. The product of two rational numbers is $\frac{2}{5}$. If one of them is $\frac{-8}{25}$, find the other.

Q4. Solve the following : (3x3=9)

i. $\frac{2x+3}{3} - \frac{3x-2}{4} = 1$

ii. A die is thrown once find the probability of getting the following numbers on the die

a. Even number

b. Number less than 5

c. Prime number

iii. Amit's bank balance was Rs. 5000. In a month, he deposited Rs. 1000, Rs. 250 and Rs. 850 and issued cheques worth Rs. 750 and Rs. 1350. Find the balance in the account at the end of the month.

SECTION C

Q5. Word Problems : (3x4=12)

i. A man is 36 years older than his son. After 10 years, he will be thrice as old as his son. Find their present ages.

ii. Two poles 18m and 13 m high stand upright in a playground. If their feet are 12m apart, find the distance between their tops.

iii. In a class of 55 students, the number of girls is 25. Find the ratio of number of :

a. girls to the total number of students

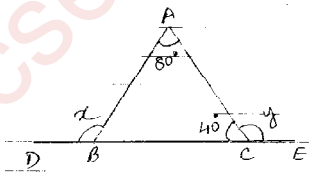
b. boys to the total number of students

c. boys to the number of girls.

Q6. Geometry (10)

i. Find the unknown angles. State the reason for the same – (2x3)

a.



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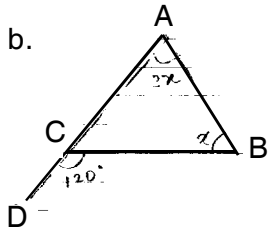
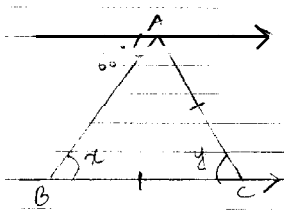


c.



ii. Construct an isosceles triangle ABC such that AB = AC = 6 cm and $\angle A = 45^{\circ}$ (4)

Q7. The following data was collected during a survey conducted in a school. Construct a bar graph. (5)

Favourite Subject	English	Hindi	Maths	Science	History	Geography
No. of Students	550	320	400	480	250	600

iii. The compound ratio of 3:5 and 2:5 is _____
(25:6 / 6:25)

iv. Write the expression for :

Two less than three fourth of t is 15 $\left(\frac{3t}{4} - 2 \Big/ 2 - \frac{3t}{4}\right)$

v. An equation having x = - 3 as its solution is ____
(2x + 7 = 2 / 2x + 8 = 2)

vi. We can have a right angled triangle with an abtuse angle. (True / False)

vii. The decimal form of $14\frac{7}{10}$ is ____ (14.07/14.7)

viii. The product of 0.536 and 0.07 will have ____ decimal places. (4/5)

ix. In a right angled triangle, the square of ____ is equal to the sum of the squares of the other two sides (perpendicular / Hypotinuse)

x. The probability of getting 'A' from the word
'MATHEMATICS' is ____ $\left(\frac{2}{11} / \frac{2}{10}\right)$

SECTION B

Q3. Do as directed (2x10=20)

i. Evaluate : $\frac{13}{8} + \frac{7}{16} + \frac{-3}{4}$

ii. Find the mean proportion between $\frac{2}{3}$ and $\frac{8}{27}$

iii. Simplify : $12 - [8 - \{9 - (7 - \overline{6 - 5})\}]$

iv. Divide Rs. 2700 in the ratio 1 : 2 : 6

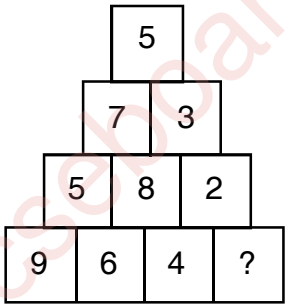
v. Convert $0.\overline{81}$ into fraction

vi. Solve : 5 (3 - x) + 1 = 3 (x + 4)

SECTION D

Q8. Logical Thinking

i. Which number replaces the question mark? (2x2=4)



ii. If 3 = 18
4 = 32
5 = 50
6 = 72
7 = 98
Then 10 = ?