

Half-yearly Examination - 2016-2017
MATHEMATICS

Time : 2 Hrs. + 15 min
F. M. : 80

Std. : VI

Solve all the questions neatly. Show the working in the rough column on the answer sheet and highlight the answers.

SECTION A

A. Solve the following :

(1×10=10)

1. Change into mixed fraction $\frac{119}{5}$
2. Write in decimal form $\frac{58301}{1000}$
3. Find the amount if the Principal = Rs. 6080 and interest = Rs. 220
4. Find the successor of -999
5. Find the ratio of 8 months to 2 years
6. Write in symbols : b subtracted from 8 times a
7. The supplement of angle 12°
8. Add : $13x^2, 10x^2, -5x^2, 4x^2$
9. If $7 : x :: 21 : 15$ then find the value of x
10. Put the sign $> < =$ $\frac{3}{10}$ $\frac{4}{11}$, 12.5 12.05

B. Choose the correct option. Show the working where necessary.

(10)

1. What must be added to -35 to get 17?
a. -18 b. -52 c. 52
2. Convert $\frac{3}{8}$ into a decimal number
a. .275 b. .375 c. .475
3. Subtract 17.506 from 36.3
a. 18.794 b. 21.206 c. 17.206
4. When we divide $0.217 \div 0.00217$ we get
a. 1 b. 10 c. 100
5. $\frac{\sqrt{625}}{11} \times \frac{14}{\sqrt{25}} \times \frac{11}{\sqrt{196}} \times 11^\circ =$
a. 3 b. 5 c. 7

6. If $x - (-15) = 2$ then the value of $x =$
 a. -13 b. 17 c. 25
7. If the amount = Rs. 1770 and interest = Rs. 270 then the principal equals to
 a. Rs. 1600 b. Rs. 1500 c. Rs. 1400
8. The sum of the angles at a point is
 a. 90° b. 180° c. 360°
9. How many $\frac{1}{8}$ s are there in $37\frac{1}{2}$?
 a. 275 b. 300 c. 325
10. Express the ratio $\frac{3}{4} : \frac{2}{5}$ in simplest form
 a. 2 : 3 b. 15 : 8 c. 6 : 20

SECTION B

(3 X 8 =24)

Solve the following :

| | |
|--|---|
| <p>1. Add :</p> $\begin{array}{r} 3a - 2b + 5c \\ 4a + 7b - 9c \\ - 6a - 4b - 3c \\ \hline \hline \end{array}$ | <p>2. Subtract</p> $\begin{array}{r} 2x^3 + 9x^2 - 7x - 8 \\ 3x^3 - 5x^2 - 9x + 6 \\ \hline \hline \end{array}$ |
|--|---|

3. If $x = -2$ and $y = 2$ find the value of
 $3x^3 - 5y^2 + 4$
4. A labourer earns Rs. 12000 a month and spends Rs. 8000. Find the ratio of his
 a. expenditure to income
 b. saving to expenditure
 c. saving to income
5. Simplify and write in exponential form
 $43 \times 5^0 + (-3)^4 - 7^0$
6. Simplify $2a^2 - 3b^2 - [3a^2 - 2b^2 \{a^2 - c^2 - (a^2 - 2b^2)\}]$
7. Consider the algebraic expression $4x^3y - 2x^2y^2 + \frac{3}{2}xy^2$
 a. Write the literal co-efficient of the term $4x^3y$.
 b. What is the numerical co-efficient of the term containing x^2y^2 ?
 c. What is the coefficient of y in the term $\frac{3}{2}xy^2$?
8. Subtract $4x^2 - z^2$ from the sum of $2x^2 + 3y^2 - 4z^2$ and $x^2 - 2y^2 + z^2$.

SECTION C (5 X 4 = 20)

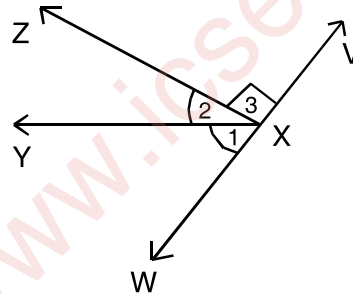
Write the statements clearly, show the working clearly and highlight the answers.

- Anil weighs 11.235 kg. his sister, is 1.4 times heavier than he is. Calculate his sister's weight.
- A man earns Rs.12000 per month. He spends $\frac{7}{12}$ on household items and $\frac{3}{24}$ on education of children. How much does he save?
- Seema borrowed Rs. 750 from her friend at 14% per annum and returned the amount after six months. How much amount did she pay?
- A mini truck can hold $26\frac{1}{4}$ kg. Four rocks that weigh $6\frac{1}{8}$ kg, $8\frac{1}{2}$ kg and $7\frac{1}{2}$ kg are to be loaded into the mini truck. Can the truck hold all the four rocks? Why?

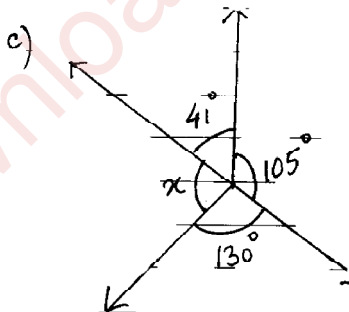
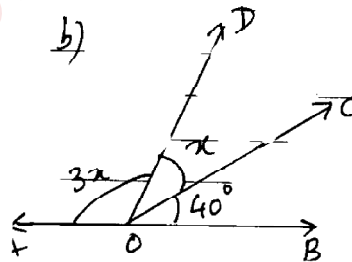
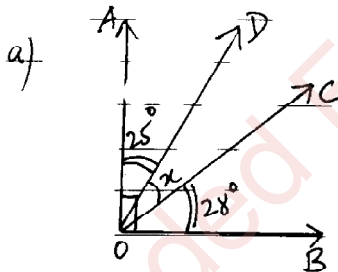
SECTION D

- See the figure and answer the questions : (1x4=4)

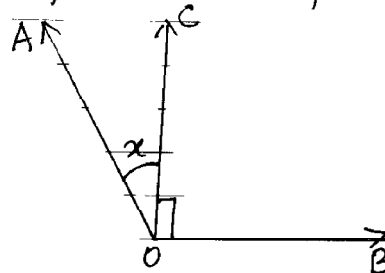
- Name the vertex
- Name angle 1 and angle 2 $\angle 1 =$
 $\angle 2 =$
- Name the rays of $\angle Y X Z$
- If $\angle 1 + \angle 2 =$ right angle, find $\angle 3$



- Find the value of x in the following figures. (2x4=8)



d) If $\angle AOB = 130^\circ$, find x



- Construct a square of side = 5 cm using a compass. (4)