



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

First Term Examination - 2018

Class : 7



SUB: Arithmetic

F.M.80

DURATION: 2 Hrs30Mins

DATE:19.04.2018

## Group-A

1. Choose the correct option.

1x5=5

i) Which of the following is the odd one out?

- a)  $40 + (-45)$    b)  $(-57) - (-52)$    c)  $(-5) \times (-1)$    d)  $80 \div (-16)$

ii) After simplifying  $\frac{4}{5} \times \frac{3}{7} \times \frac{1}{8}$  we get

- a)  $\frac{3}{70}$    b)  $\frac{3}{35}$    c)  $\frac{4}{70}$    d) none of these

iii) Divide 6.58 by 100 we get

- a) 0.658   b) 0.0658   c) 6.58   d) 0.00658

iv)  $\sqrt{1.69} = \underline{\hspace{2cm}}$ ?

- a) 0.13   b) 1.3   c) 0.013   d) none of these

v) The value of  $7^0 + 8^0 + 9^0$  is

- a) 2   b) 0   c) 3   d) 1

2. Fill in the blanks.

1x5=5

i) Reciprocal of  $|-3\frac{3}{4}|$  is \_\_\_\_\_.

ii) Expressing  $\frac{27}{64}$  in power notation we get \_\_\_\_\_.

iii)  $(-8) \times (-3) \times (-5) = \underline{\hspace{2cm}}$ .

iv)  $\frac{5}{8}$  of 40 kg is \_\_\_\_\_.

v) Subtracting  $\frac{-3}{5}$  from  $\frac{2}{5}$  we get \_\_\_\_\_.

3. Write down True or False.

1x5=5

i) All rational numbers are fractions.

ii) Absolute value of  $-(\frac{7}{8})^2$  is  $\frac{49}{64}$ .

iii) Simplifying  $(-5) \times (-5)^2$  we get 125.

iv) Mean of 2, 4, 3, 9, 7 is 5.

v) Solving  $|x| = 21 \div 3\frac{1}{2}$  we get 6 or -6.

Group – B

4. Write very short answer of the following questions:

2x5=10

- (i) Find the product of  $(-8) \times (-4)$ .
- (ii) Simplify the expression:  $27 \div (-9) + 3 \times (-2)$ .
- (iii) Find the difference:  $-\frac{3}{7} - \frac{4}{7}$ .
- (iv) Divide:  $\frac{9}{-14} \div 6$ .
- (v) Express  $-\frac{1}{32}$  in power notation.

5. Write short answer of the following questions:

3x5=15

- (i) Find the value of the expression  $(-8) - a - b$  when  $a=5$  and  $b=-4$ .
- (ii) The average temperature in winter in Manali is about  $-8^{\circ}\text{C}$ , while in Leh it is about  $-42^{\circ}\text{C}$ . How many degrees colder is the winter temperature of Leh?

OR

Compare:  $\frac{3}{14}$  and  $\frac{5}{21}$

(iii) Add:  $(-1\frac{5}{12}) + 2\frac{1}{16}$

OR

Find the value of  $(\frac{-4}{5})^4 \times (\frac{1}{4})^3$ .

(iv) The area of a rectangular garden is  $850\text{m}^2$ . Its breadth is  $17\text{m}$ . Find its length and perimeter.

(v) The daily maximum temperature recorded in degree celcius at Jaipur during the first week of June, 2016 was as under 42, 43, 40, 44, 46, 45, 42. Find the mean temperature recorded.

Group – C

6. Write the answer of the following questions:

5x8=40

- (i) Find the value of  $(6x)^3$ , when  $x = \frac{-2}{3}$ .
- (ii) Find the square root of 15625 by long division method.
- (iii) The product of two numbers is  $-24\frac{1}{2}$ . If one of the numbers is  $5\frac{1}{4}$ , find the other number.

(iv) Simplify:  $\frac{-11}{-25} + \frac{9}{20} - \frac{-17}{50} + \frac{51}{100}$

Or

Simplify:  $\frac{1}{2} \times \frac{1}{7} \div \frac{2}{3}$  of  $1\frac{2}{7}$

(v) The perimeter of a square park is  $832\text{ m}$ . Find the area of the park.

(vi) Find the mean of the following marks obtained by students of a class:

Marks	15	20	25	30	35	40
No. of students	9	7	12	14	15	6

(vii) Find the combined average age of a group of 150 people, if the average age of 50 people is 30 and that of the other 100 people is 60.

(viii) Find:  $1.364 \times 0.06$

Or

Express  $[(\frac{-4}{5})^2 \times (\frac{-4}{5})^4]$  with a single exponent.



# ST. LAWRENCE HIGH SCHOOL

*A Jesuit Christian Minority Institution*

## First Term Examination

Sub: Arithmetic Answerkey

Class: VII

F.M.: 80

Duration:  $2\frac{1}{2}$  Hours

Date: 19/4/2018



### Group - A

1. Choose the correct option.

i) Which of the following is the odd one out?

c)  $(-5) \times (-1)$

ii) After simplifying  $\frac{4}{5} \times \frac{3}{7} \times \frac{1}{8}$  we get

a)  $\frac{3}{70}$

iii) Dividing 6.58 by 100 we get

b) 0.0658

iv)  $\sqrt{1.69} = \underline{\hspace{2cm}}?$

b) 1.3

v) The value of  $7^0 + 8^0 + 9^0$  is

c) 3

2. Fill in the blanks.

i) Reciprocal of  $|-3\frac{3}{4}|$  is  $\frac{4}{15}$

ii) Expressing  $\frac{27}{64}$  in power notation we get  $(\frac{3}{4})^3$ .

iii)  $(-8) \times (-3) \times (-5) = -120$

iv)  $\frac{5}{8}$  of 40 kg is 25 kg

v) Subtracting  $\frac{-3}{5}$  from  $\frac{2}{5}$  we get 1

3. Write down True or False.

i) All rational numbers are fractions. FALSE

ii) Absolute value of  $-(\frac{7}{8})^2$  is  $\frac{49}{64}$ . TRUE

iii) Simplifying  $(-5) \times (-5)^2$  we get 125. FALSE

iv) Mean of 2, 4, 3, 9, 7 is 5. TRUE

v) Solving  $|x| = 21 \div 3\frac{1}{2}$  we get 6 or -6. TRUE

### Group - B

4.

(i)  $(-8) \times (-4) = 32$

(ii)  $27 \div (-9) + 3 \times (-2) = (-3) + (-6) = -9$

(iii)  $-\frac{3}{7} - \frac{4}{7} = -\frac{7}{7} = -1$ .

(iv)  $-\frac{9}{14} \div 6 = \frac{-9}{14} \times \frac{1}{6} = \frac{-3}{28}$

(v)  $-\frac{1}{32} = -\frac{1}{2^5}$

5.

$$\begin{aligned} & \text{(i) } (-8) - a - b \\ & = (-8) - 5 - (-4) \text{ [ Since } a = 5 \text{ \& } b = -4 \text{ ]} \\ & = -8 - 5 + 4 \\ & = -13 + 4 \\ & = -9. \end{aligned}$$

$$\text{(ii) Required difference} = -42^{\circ}\text{C} - (-8^{\circ}\text{C}) = -42^{\circ}\text{C} + 8^{\circ}\text{C} = -34^{\circ}\text{C}.$$

Or

LCM of 14 and 21 is  $7 \times 2 \times 3 = 42$

$$\frac{3}{14} = \frac{3 \times 3}{14 \times 3} = \frac{9}{42}$$

$$\frac{5}{21} = \frac{5 \times 2}{21 \times 2} = \frac{10}{42}$$

Since  $10 > 9$ ,  $\therefore \frac{5}{21} > \frac{3}{14}$  [It can also be done by cross multiplication method].

$$\text{(iii) } \left(-1\frac{5}{12}\right) + 2\frac{1}{16}$$

$$= -\frac{17}{12} + \frac{33}{16} = \frac{-17 \times 4 + 33 \times 3}{48} = \frac{-68 + 99}{48} = \frac{31}{48}$$

Or

$$\left(-\frac{4}{5}\right)^4 \times \left(\frac{1}{4}\right)^3 = -\frac{4}{5} \times -\frac{4}{5} \times -\frac{4}{5} \times -\frac{4}{5} \times \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} = -\frac{1}{5} \times -\frac{1}{5} \times -\frac{1}{5} \times -\frac{1}{5} \times \frac{4}{5} = \frac{4}{625}$$

(iv) Area = 850 sq. m and Breadth = 17 m.

$$\therefore \text{Length} = \frac{850}{17} = 50 \text{ m}$$

$$\therefore \text{Perimeter} = 2(50 + 17) \text{ m} = 2 \times 67 \text{ m} = 134 \text{ m}$$

$$\text{(v) Mean Temperature} = \frac{\text{Sum of all values}}{\text{Number of observations}} = \frac{42+43+40+44+46+45+42}{7} = \frac{302}{7} = 43.14^{\circ}\text{C}.$$

### Group – C

6.

$$\text{(i) } (6x)^3 = 6^3 \cdot \left(\frac{-2}{3}\right)^3 = 216 \times \frac{-8}{27} = 8 \times -8 = -64.$$

$$\text{(ii) } 1 \overline{)156 \overline{)25} | 125}$$

$$\begin{array}{r} 1 \\ 22 \overline{)56} \\ \underline{44} \\ 245 \overline{)1225} \\ \underline{1225} \\ \hline \end{array}$$

x

$$\text{(iii) The other number} = \frac{\text{The product of two numbers}}{\text{One number}} = \frac{-24\frac{1}{2}}{5\frac{1}{4}} = -\frac{49}{2} \div \frac{21}{4} = -\frac{49}{2} \times \frac{4}{21} = -\frac{14}{3} = -4\frac{2}{3}$$

$$\text{(iv) } \frac{11}{-25} + \frac{9}{20} - \frac{-17}{50} + \frac{51}{100}$$

$$= \frac{-220 + 225 + 170 + 255}{500} = \frac{430}{500} = \frac{43}{50}$$



Or

$$\frac{1}{2} \times \frac{1}{7} \div \frac{2}{3} \text{ of } 1\frac{2}{7}$$

$$= \frac{1}{2} \times \frac{1}{7} \div \frac{2}{3} \text{ of } \frac{9}{7}$$

$$= \frac{1}{2} \times \frac{1}{7} \div \frac{6}{7}$$

$$= \frac{1}{2} \times \frac{1}{7} \times \frac{7}{6}$$

$$= \frac{1}{12}$$

(v)  $4 \times (\text{Side}) = 832 \text{ m}$

$\therefore \text{Side} = \frac{832}{4} = 208 \text{ m.}$

So, the area of the square park =  $(\text{Side})^2 = (208)^2 = 43264 \text{ Sq. Meter.}$

(vi) Table for computation of mean

Marks (x)	No. of Students (f)	fx
15	9	135
20	7	140
25	12	300
30	14	420
35	15	525
40	6	240
	$\Sigma f = 63 = N$	$\Sigma fx = 1760$

$$\text{Mean } (\bar{x}) = \frac{\Sigma fx}{\Sigma f} = \frac{1760}{63} = 27.93 \text{ marks.}$$

(vii) Combined average age =  $\frac{(50 \times 30) + (100 \times 60)}{150} = 50 \text{ years.}$

(viii)  $1.364 \times 0.06 = 0.08184$

Or

$$\left(-\frac{4}{5}\right)^{2+4} = \left(-\frac{4}{5}\right)^6 \text{ [ Since, bases are equal ]}$$

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