



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Second Term Examination - 2018



Class : 8

Sub : Arithmetic

F.M.:80

DURATION:2 Hrs30Mins

DATE:01.08.2018

GROUP - A

1. Choose the correct answer.

(5 x 1 = 5)

(i) Given $\frac{52}{x} = \frac{\sqrt{169}}{\sqrt{289}}$, the value of x:

(a) 62 (b) 58 (c) 52 (d) 68

(ii) Cube root of $(1 - \frac{127}{343})$ is equal to:

(a) $1 - \frac{4}{9}$ (b) $1 - \frac{1}{7}$ (c) $1 - \frac{5}{9}$ (d) $1 - \frac{2}{7}$

(iii) Profit % is generally calculated with respect to:

(a) Market price (b) Cost price (c) Selling price (d) Discount

(iv) 75% of 1 kg 200 gm is:

(a) 700 gm (b) 600 gm (c) 900 gm (d) 200 gm

(v) 20m² of flooring costs Rs. 3600. What is the cost of 25m² of flooring?

(a) Rs.4000 (b) Rs. 6000 (c) Rs. 4800 (d) Rs.4500

2. Write True or False.(5 x 1 = 5)

(i) The square of a decimal number less than 1 is always greater than given decimal.

(ii) 196 is not a perfect cube.

(iii) Percent means per thousand.

(iv) In inverse variation if one quantity increases the other quantity will decrease.

(v) If the loss is 20%.then SP must be multiplied by $\frac{5}{4}$ to get the CP.

3. Fill in the blanks.(5 x 1 = 5)

(i) A perfect square can never have the digit _____ at the unit's place.

(ii) Cube of a negative number is always _____.

(iii) The discount in percent, when MP = Rs. 400 and SP = Rs. 360 is _____.

(iv) In case of direct variation $\frac{x}{y} =$ _____.

(v) The number 65 increase to 80. The percentage increase is _____.

Group - B

(4) Answer the following questions :-

(5 X 2 = 10)

1) Find the square root of 291.7264

2) Evaluate $\sqrt[3]{0.003375}$.

3) Decrease 400 by 30%. Find the decreased value.

4) Francis bought a dining set for ₹ 64,000 and sold it at a loss of 20%. What is the selling price.

5) Adityangshu takes 4 hours in walking a distance of 20 Km. What distance would he cover in 7 hours?

(5) Answer the following questions:- (Any Five)

(5 X 3 = 15)

- 1) Find the smallest number by which 180 must be multiplied so that it becomes a perfect square. Also find the square root of the new number.
- 2) Find the cube root of 91125.
- 3) The adult population of a village is 6400. If 30% of the population are literate, what is the number of illiterate?
- 4) A shopkeeper bought 80 Kg of sugar at the rate of ₹ 13.50 per Kg. He mixed it with 120 Kg of sugar costing ₹ 16 per Kg. At what price per Kg should he sell the mixture so as to make a profit of 20%?
- 5) 153 rails placed end to end in a straight line stretch to 680m. How far will 135 rails stretch?
- 6) 12 men can repair a road in 25 days, how long will 30 men take to do so?
- 7) By selling a basket of mangoes for ₹ 105, a fruit seller loses 30%. For how much should he sell it to gain 40%?

Group- C

6. Answer any eight questions:

5 x 8 = 40

- a) Find the least perfect square number which is also divisible by each of 12, 15 and 30.
- b) By selling 10 dozen pencils a shopkeeper gains the SP of 40 pencils, find his gain or loss percent.
- c) A purchased an article and sold it to B at profit of 25%. B sold it to C at a loss of 10%. If C paid Rs. 675 for how much did A purchase it.
- d) Tanishas pocket money savings increased by 25% in this month to Rs. 500. What were her savings before the increase.
- e) A trader sells two cycles at Rs. 1188 each, gaining 10% on the first cycle and losing 10% on the second cycle. What is the profit or loss percent in the whole transaction.
- f) If 25 animals eat 5 bags of corn in 12 days, how much will 10 animals eat 18 days.
- g) The number of days required to renovate a house varies inversely as the number of men available. Complete the given table.

Number of days	12	8		16
Number of Men		6	24	

- h) Simplify: $400 + \sqrt{0.04} + 0.00004$
- i) A student has to obtain 33% of the total marks to pass. He got 25% of the total marks and failed by 40 marks, what are his total marks?
- j) The price of an article has been reduced by 25%. In order to restore the original price by what percent should we increase the new price?



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2nd Term Examination - 2018

Sub: Arithmetic

Class: VIII

F.M 80

Duration: 2 Hrs. 30 Min.

Model Answer

Date: 01.08.2018

GROUP - A

1. Choose the correct answer.

(5 x 1 = 5)

- (i) (d) 68
- (ii) (b) $1 - \frac{1}{7}$
- (iii) (b) Cost Price
- (iv) (c) 900 gm
- (v) (d) Rs. 4500

- 1) Soumitra Maity 2.8.18
- 2) Chaitali Roy, 2.8.18
- 3) Bejani bas 2/8/18.
- 4) Tithi Das Gupta 2/8/18
- 5) Sanjiv Bhattacharya 2/8/18

2. Write True or False. (5 x 1 = 5)

- (i) False.
- (ii) True.
- (iii) False.
- (iv) True.
- (v) True.

3. Fill in the blanks.

(5 x 1 = 5)

- (i) Any of 2, 3, 7, 8..
- (ii) Negative.
- (iii) 10% loss.
- (iv) Constant.
- (v) $23\frac{1}{13}\%$.

Group- B

(4)

1) 17.08

2) 0.15

3) Decreased value = $400 - \frac{30 \times 400}{100} = 280$

4) When C.P is Rs. 100, S.P = Rs. 80

So when C.P is Rs. 64000, S.P = $\frac{80 \times 64000}{100} = \text{Rs. } 51200$

5) In the given sum the relation between hrs and distance is directly proportional

Let Adityangshu covers x Km in 7 hrs.

Hence by the problem we get $\frac{4}{7} = \frac{20}{x}$

Solving, we get x = 35 Km

(5) $1) 180 = 2^2 \times 3^2 \times 5$

Hence the reqd smallest number is 5.

Therefore the new number = $180 \times 5 = 900$

Hence the sq. root of 900 = 30

2) $91125 = 3^3 \times 3^3 \times 5^3$

Therefore cube root of 91125 = $3 \times 3 \times 5 = 45$

3) No of literates = $\frac{30 \times 6400}{100} = 1920$

Hence the no of illiterates = $6400 - 1920 = 4480$

4) C.P of 80 Kg of sugar = Rs. $13.5 \times 80 =$ Rs. 1080

C.P of 120 Kg of sugar = Rs. $16 \times 120 =$ Rs. 1920

Hence total C.P of 200 Kg of sugar = Rs. 3000

Therefore C.P of 1 Kg of sugar = Rs. 15

So when C.P is Rs. 100, S.P = Rs. 120

Therefore when C.P is Rs. 15 S.P = Rs. $\frac{120 \times 15}{100} =$ Rs. 18

5) In the given sum the relation between the no of rails and the distance is directly proportional. Let x mtr be stretched by 135 rails

Hence by the problem we get, $\frac{153}{135} = \frac{680}{x}$

Solving we get $x = 600$ m

6) Here the relation is inversely proportional with the no of men to the days reqd.

Let 30 men takes x no of days to do the work.

Hence by the problem we get $12/30 = x/25$

Solving we get $x = 10$ days

7) When S.P = Rs. 70, C.P = Rs. 100

So when S.P is Rs. 105, C.P = Rs. $\frac{100 \times 105}{70} =$ Rs. 150

Now, when C.P is Rs. 100, S.P = Rs. 140,

So when C.P is Rs. 150, S.P = $\frac{140 \times 150}{100} =$ Rs. 210

Hence he should sell at Rs. 210

Group – C

6. a) L.C.M. of 12, 15 and 30 is 60

Now, $60 = 2 \times 2 \times 3 \times 5$

To make it a perfect square, it should be multiplied by $3 \times 5 = 15$

Therefore, the required square number = $60 \times 15 = 900$ (Ans)

b) Gain = S.P. of 120 pencil – CP of 120 pencil

or, S.P. of 40 pencil = S.P. of 120 pencil – CP of 120 pencil

or, S.P. of 80 pencil = CP of 120 pencil

Let CP of 1 pencil be Rs.x

So, CP of 120 pencil = Rs. $120x$

Or, SP of 80 pencil = Rs. $120x$

Or, SP of 1 pencil = Rs. $120/80x =$ Rs. $3/2x$.

Therefore gain = SP-CP

$$= (3/2x - x) = x/2$$

So gain % = $\frac{x/2}{x} \times 100 = 50\%$ (Ans)

x

c) Let C.P. of A = Rs.x, Profit % = 25

Then S.P of A = $\frac{x \times 125}{100} = \frac{125x}{100}$

$$\frac{125x}{100}$$

New C.P. of B = $\frac{125x}{100}$, Loss % 10

$$\frac{125x}{100}$$

Then S.P. of B = $\frac{125x}{100} \times \frac{90}{100}$

$$\frac{125x}{100}$$

$$\text{Now C.P. of C} = \frac{(125x) \times (90/100)}{100}$$

$$\text{B.T.P. } \frac{(125x) \times (90/100)}{100} = 675$$

$$\text{Or, } x = \frac{675 \times 100 \times 100}{125 \times 90} = 600$$

So, A purchased the article for Rs.600 (Ans)

d) Let the original savings be Rs.100.

Increase in savings 25%, therefore new savings is Rs. 125.

When new savings Rs 125 original savings Rs 100

$$\begin{array}{ccccccc} \text{"} & \text{"} & \text{"} & \text{Rs 500} & \text{"} & \text{"} & \text{Rs } (100/125 \times 500) \\ & & & & & & \\ & & & & & & = \text{Rs 400 Ans.} \end{array}$$

e) S.P. of first cycle is Rs 1188

Gain = 10%

Therefore C.P. = S.P. \times 100/(100+10) = 11880/110 = Rs 1080.

S.P. of second cycle is Rs 1188

Loss = 10%

Therefore C.P. = S.P. \times 100/(100-10) = 11880/90 = Rs 1320

Total C.P. = Rs 1080 + Rs 1320 = Rs 2400

Total S.P. = Rs 1188 + Rs 1188 = Rs 2376

Since S.P. < C.P. therefore loss

Loss % = (2400-2376)/2400 \times 100 = (24/2400) \times 100 = 1% Ans.

6. f) In 12 days 25 animals eat 5 bags of corn

In 1 day 25 animals eat 5/12 bags of corn

In 1 day 1 animal eats (5/12) \times 25 bags of corn

In 18 days 10 animals will eat (5 \times 10 \times 18) / (12 \times 25) bags of corn

= 3 bags of corn.

6. g) Number of days(d) varies inversely as number of men(m).

Therefore dm = k given k = 8 \times 6 = 48.

When d = 12, 12 \times m = 48 or, m = 4

When $m = 24$, $d \times 24 = 48$ or, $d = 2$

When $d = 16$, $16 \times m = 48$ or, $m = 3$.

No. of days	12	8	2	16
No. of men	4	6	24	3

6. h) $400 + 0.04 + 0.000004$

$$= \sqrt{400} + \sqrt{0.04} + \sqrt{0.000004}$$

$$= 20 + \sqrt{\frac{4}{100}} + \sqrt{\frac{4}{1000000}}$$

$$= 20 + \frac{2}{10} + \frac{2}{1000}$$

$$= 20 + 0.2 + 0.002$$

$$= 20.202 \text{ (Ans)}$$

6. i) Let the total marks be x

Given, $25\% \text{ of } x + 40 = 33\% \text{ of } x$

$$\text{Or, } 25x/100 + 40 = 33x/100$$

$$\text{Or, } x = 500 \text{ Ans.}$$

6. j) Let original price Rs 100

After reduction by 25%, new price is Rs 75.

To restore new price to original price, we need to increase new price by Rs 25.

Therefore % increase is $(25/75) \times 100 = 33\frac{1}{3}\%$ Ans.