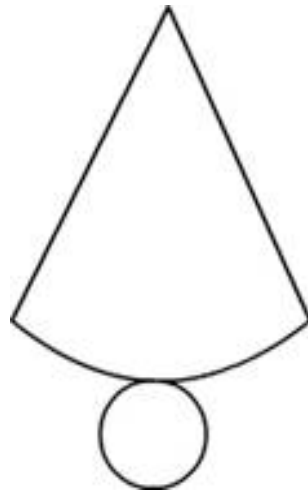


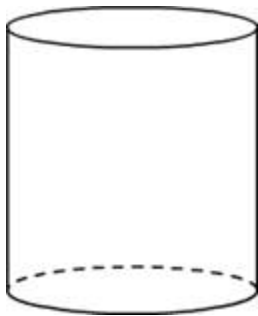
General Instructions:

- There are 60 questions. All questions are compulsory.
- Shade the right answer in the OMR sheet provided      A)  B)  C)  D)
- Time allotted is 60 minutes. Total Marks = 60 Marks

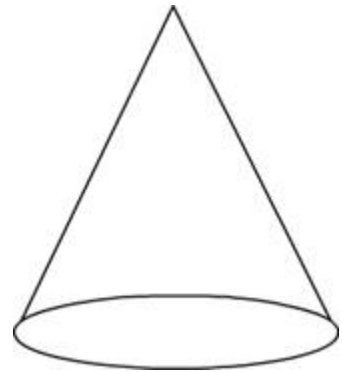
Q.1) Which of the following is the correct matching figure of the given net?



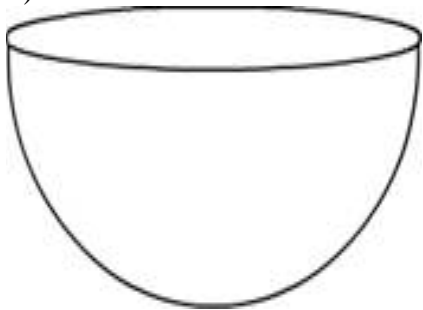
A)



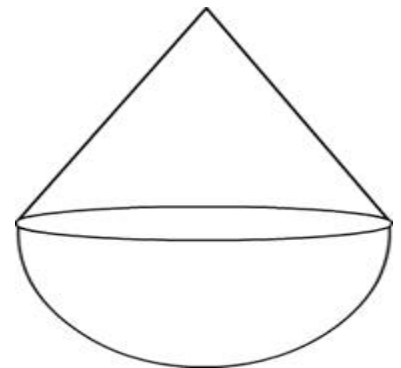
B)



C)



D)

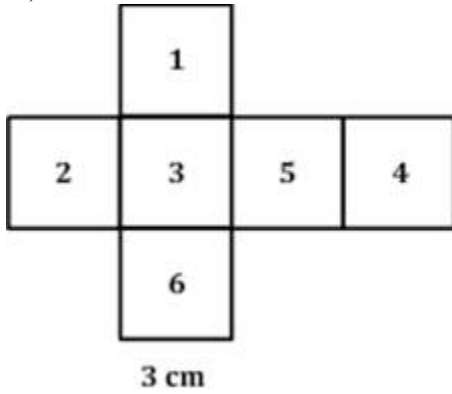


Dream Scholars League 2014-15  
Class VIII: Mathematics Scholarship Exam: Sample Question Paper

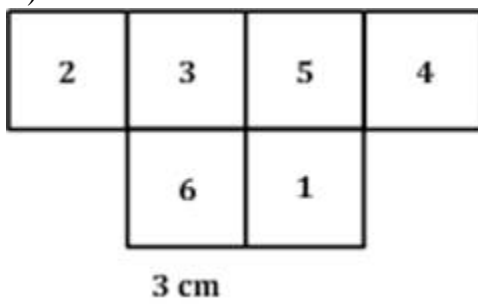
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Q.2) Which of the following figures shows the net of a cube of side 3 cm?

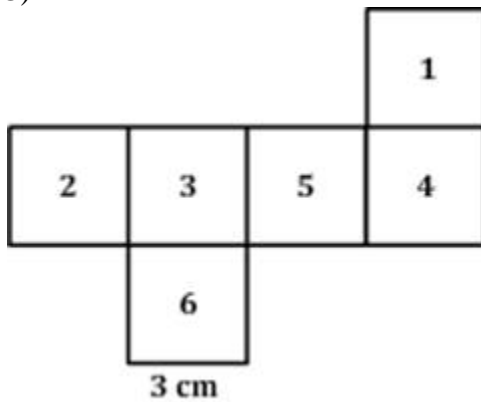
A)



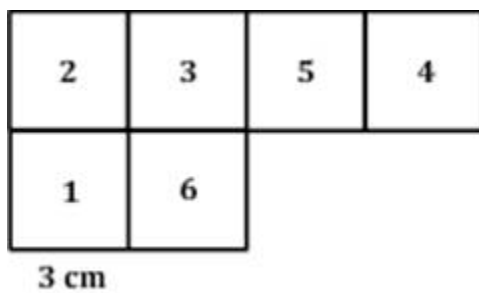
B)



C)



D)



Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

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Q.3) The first natural number is \_\_\_\_\_.

- A) 1                      B) 0                      C) -1                      D) 2

Q.4) If  $20 = 6 + 2x$ , then the value of  $x$  is \_\_\_\_\_.

- A) 5                      B) 7                      C) 4                      D) 1

Q.5) To construct a quadrilateral PQRS with  $PQ = 5$  cm,  $QR = 7$  cm,  $RS = SP = 6.2$  cm and the diagonal  $PR = 9$  cm, the steps involved are written below:

- (i) Draw a line  $PR = 9$  cm.  
(ii) With P as centre draw an arc with radius 5 cm.  
(iii) With R as centre and radius 7 cm, draw an arc in the same side which intersects the arc at Q.  
(iv) Join P and Q, Q and R, R and S, S and P.  
(v) With P as centre and radius 6.2 cm, draw an arc on the side of PR opposite to that of Q.  
(vi) With R as centre and radius 6.2 cm, draw another arc on the same side which intersects the arc at S.

The correct sequence of the construction is \_\_\_\_\_.

- A) i, ii, iii, vi, v, iv    B) i, ii, iii, iv, vi, v    C) iii, ii, i, v, vi, iv    D) i, ii, iii, v, vi, iv

Q.6) The record of a weather station shows that out of the past 250 consecutive days, its weather forecasts were correct 125 times. The probability that it was not correct on a given day is \_\_\_\_\_.

- A) 0.7                      B) 0.3                      C) 0.5                      D) 0.2

Q.7) The square of  $15\frac{2}{3}$  is \_\_\_\_\_.

- A)  $245\frac{1}{9}$                       B)  $245\frac{9}{4}$                       C)  $\frac{9}{4}$                       D) 245

Q.8) The cube root of -27000 is \_\_\_\_\_.

- A) 30                      B) -30                      C) 35                      D) -35

Q.9) In an examination, 30 % candidates failed in English, 35% failed in Mathematics and 27 % failed in both the subjects. The percentage of total passed is \_\_\_\_\_.

- A) 61 %                      B) 65 %                      C) 60 %                      D) 62 %

Q.10) The degree of  $5xy^2 + 4x^2$  is \_\_\_\_\_.

- A) 1                      B) 2                      C) 3                      D) 4

Q.11) A number abc is divisible by 9, if the sum of digits in it is a multiple of \_\_\_\_\_.

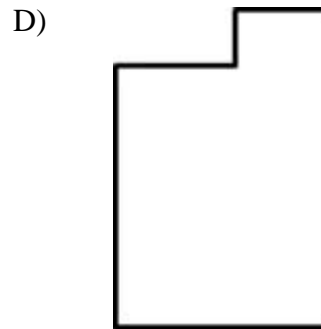
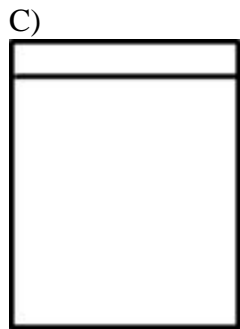
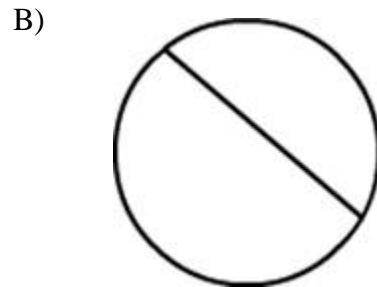
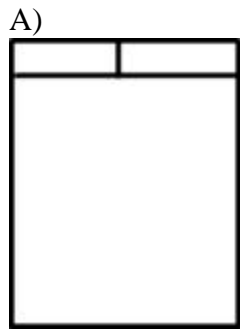
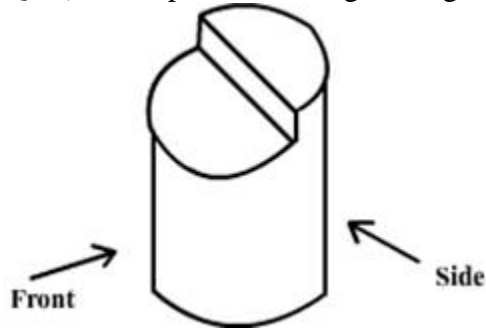
- A) 2                      B) 6                      C) 9                      D) 0

Q.12)  $a^2 - ab - ca + bc =$  \_\_\_\_\_.

- A)  $(a - b)(2a - c)$     B)  $2(a - b)(a - c)$     C)  $(a - b)(a - c)$     D)  $(a + b)(a - c)$



Q.17) The top view of the given figure is \_\_\_\_.



Q.18) The square of 1.5 is \_\_\_\_.

A) 1.69

B) 9.69

C) 2.25

D) 1.60

Q.19) A sum of Rs 64 is divided between Sita and Geeta such that 3 times Sita's share is greater than 4 times Geeta's share by Rs 10. Then the shares of Sita and Geeta are \_\_\_\_ respectively.

A) Rs 40 and Rs 24

B) Rs 34 and Rs 30

C) Rs 36 and Rs 28

D) Rs 38 and Rs 26

Q.20) Which of the following is a quadrilateral whose each angle is  $90^\circ$ ?

A) Parallelogram

B) Rectangle

C) Rhombus

D) Kite

Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

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Q.21) To construct a parallelogram ABCD, whose two sides AB and AD are given as 5.5 cm and 4.5 cm respectively and its diagonal BD is 6.5 cm, the steps involved are written below:

- (i) Draw  $AB = 5.5$  cm.
- (ii) Join A and D.
- (iii) With D as centre and radius equal to 5.5 cm draw an arc.
- (iv) With centre A and radius equal to 4.5 cm draw an arc.
- (v) With B as centre and radius equal to 6.5 cm, draw another arc which intersects the arc at D.
- (vi) With centre as B and radius equal to 4.5 cm draw another arc which intersects the previous arc at C.
- (vii) Join D and C, B and C.

The correct sequence of the construction is \_\_\_\_\_.

- A) i, v, iv, ii, iii, vi, vii
- B) i, iv, vii, ii, iii, v, vi
- C) i, iv, v, iii, ii, vii, vi
- D) i, iv, v, ii, iii, vi, vii

Q.22) The marks obtained by 40 students in Mathematics are given below:

69, 59, 49, 39, 84, 68, 77, 48, 47, 57, 46, 41, 44, 67, 57, 45, 34, 36, 87, 89, 65, 41, 84, 78, 52, 49, 75, 37, 38, 42, 73, 31, 34, 37, 56, 59, 64, 85, 81 and 62.

Based on the above data, the frequency of the class 60 - 70 is \_\_\_\_\_.

- A) 6
- B) 10
- C) 5
- D) 4

Q.23) The square root of 7744 is \_\_\_\_\_.

- A) 81
- B) 82
- C) 80
- D) 88

Q.24) The smallest number by which 552960 must be divided so that the quotient is a perfect cube is \_\_\_\_\_.

- A) 11
- B) 5
- C) 4
- D) 3

Q.25) Do the following activity:

- (1) Think of any 3 digit number
- (2) Make a new number by putting the digits in reverse order.
- (3) Subtract the smaller number of the two from larger number
- (4) Divide the above obtained number by 99

Then the remainder obtained is \_\_\_\_\_.

- A) 11
- B) 0
- C) 4
- D) 6

Q.26)  $\left[ \left( -\frac{1}{3} \right)^4 \div \left( -\frac{1}{3} \right)^8 \right] \times \left( -\frac{1}{3} \right)^5 =$

- A)  $\frac{1}{3}$
- B)  $\frac{4}{3}$
- C)  $\frac{2}{3}$
- D)  $-\frac{1}{3}$

Q.27) If  $A : B = 4 : 5$  and  $B : C = 6 : 7$ , then  $A : C =$  \_\_\_\_\_.

- A) 22 : 35
- B) 20 : 33
- C) 17 : 31
- D) 24 : 35

Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

Q.28)  $\frac{\text{The additive inverse of } (\frac{1}{2} - \frac{2}{3} + \frac{5}{4})}{\text{The multiplicative inverse of } \frac{-7}{3} \times (\frac{3}{4} \times \frac{9}{27})} = \underline{\hspace{2cm}}$ .

A)  $\frac{113}{114}$                       B)  $\frac{54}{91}$                       C)  $\frac{91}{54}$                       D)  $\frac{-54}{213}$

Q.29) Walking at 4 km an hour, a person reaches his office 5 minutes late. If he walks at 5 km an hour, he will be 4 minutes too early. Then the distance of his office from his residence is \_\_\_\_.

A) 5 km                      B) 3 km                      C) 2 km                      D) 1 km

Q.30) The three angles of a quadrilateral are equal. If the measure of the fourth angle is  $120^\circ$ , then the measure of each of the equal angles is \_\_\_\_.

A)  $40^\circ$                       B)  $80^\circ$                       C)  $60^\circ$                       D)  $50^\circ$

Q.31) To construct a perpendicular to a line AB from an external point P, the steps involved are written below:

- (i) With P as centre, draw an arc of a suitable radius which cuts AB as points C and D.
- (ii) With C and D as centres, draw arcs of equal radii and let these arcs intersect each other at point Q.
- (iii) Let PQ cut AB at point O.
- (iv) Join P and Q.

The correct sequence of the construction is \_\_\_\_.

- A) iii, ii, i, iv                      B) i, iii, ii, iv  
 C) i, ii, iv, iii                      D) ii, i, iii, iv

Q.32) The number of children in 20 families are given below:

2, 1, 3, 4, 1, 2, 4, 1, 3, 5, 2, 2, 1, 3, 1, 2, 2, 2, 3, 5

The correct frequency distribution table is \_\_\_\_.

A)

No. of children	Tally marks	Frequency
1		5
2		7
3		4
4		2
5		2
		Total = 20

B)

No. of children	Tally marks	Frequency
1		5
2		7
3		4
4		1
5		3
		Total = 20

C)

No. of children	Tally marks	Frequency
1		5
2		7
3		4
4		3
5		1
		Total = 20

D)

No. of children	Tally marks	Frequency
1		5
2		7
3		2
4		3
5		3
		Total = 20

Q.33) The smallest number by which 2560 must be multiplied so that the product is a perfect cube is \_\_\_\_.

- A) 5                      B) 25                      C) 15                      D) 10

Q.34) In a two-digit number, the digit in the units place is three times the digit in the tens place, and sum of the digits is equal to 8. Then the number is \_\_\_\_.

- A) 13                      B) 26                      C) 35                      D) 62

Q.35)  $x^{10}y^6 \div x^3y^{-2} =$  \_\_\_\_.

- A)  $x^7y^6$                       B)  $x^7y^5$                       C)  $x^3y^8$                       D)  $x^7y^8$

Q.36) If Naresh takes 150 steps in walking a distance of 125 metres, then the distance covered by him in 360 steps is \_\_\_\_.

- A) 275 m                      B) 300 m                      C) 320 m                      D) 310 m

Q.37) A certain number is increased by 5 and one half of the result is equal to two fifth of the number reduced from 85. Then the number is \_\_\_\_.

- A) 30                      B) 32                      C) 33                      D) 35

Q.38) To construct an isosceles triangle ABC with the base AB = 5.2 cm and one base angle is  $45^\circ$ , the steps involved are written below:

- (i) At A and B, construct angle =  $45^\circ$ .  
 (ii) Draw AB = 5.2 cm.  
 (iii) The two lines making  $45^\circ$  angles meet at a point. Let the point be C.

The correct sequence of the construction is \_\_\_\_.

- A) iii, ii, i                      B) ii, iii, i                      C) ii, i, iii                      D) i, ii, iii



## Dream Scholars League 2014-15

### Class VIII: Mathematics Scholarship Exam: Sample Question Paper

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Q.39) The following are the marks scored by 50 students in a class:

32, 26, 43, 50, 28, 26, 40, 29, 29, 42, 44, 42, 50, 50, 46, 50, 51, 54, 54, 44, 45, 51, 50, 29, 50, 44, 50, 45, 42, 44, 32, 28, 41, 50, 32, 29, 25, 30, 44, 50, 54, 35, 36, 45, 51, 53, 45, 36, 54 and 54.

Which of the following frequency distribution tables show the correct data?

A)

Class interval	Tally marks	Frequency
20 - 30		7
30 - 40		10
40 - 50		15
50 - 60		19
		Total = 50

B)

Class interval	Tally marks	Frequency
20 - 30		7
30 - 40		10
40 - 50		15
50 - 60		19
		Total = 50

C)

Class interval	Tally marks	Frequency
20 - 30		9
30 - 40		7
40 - 50		16
50 - 60		18
		Total = 50

Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

D)

Class interval	Tally marks	Frequency
20 - 30		7
30 - 40		10
40 - 50		15
50 - 60		18
		Total = 50

Q.40) There are certain number of rows of trees in a garden. The number of trees in each row is twice the number of rows. If the number of trees in the garden is 1250, then the number rows in the garden is \_\_\_\_.

- A) 20                      B) 30                      C) 25                      D) 26

Q.41) The smallest number by which 8232 should be divided so that the quotient is a perfect cube is \_\_\_\_.

- A) 11                      B) 7                      C) 3                      D) 21

Q.42) The sum of the digits of a two-digit number is 11. If we interchange the digits, then the new number formed is 45 less than the original. Then the original number is \_\_\_\_.

- A) 56                      B) 38                      C) 83                      D) 65

Q.43) If  $(4)^{m+3} \times (4)^2 = (4)^5$ , then the value of m is \_\_\_\_.

- A) 0                      B) 3                      C) 2                      D) 1

Q.44) A man travels a certain distance by train in 4 hours 12 minutes at the rate of 44.8 km/h. If the speed of the train is increased to 57.6 km/h, then the time taken by him to cover the same distance will be \_\_\_\_.

- A) 3 hours 24 minutes                      B) 3 hours 16 minutes  
C) 3 hours                      D) 3 hours 36 minutes

Q.45) The value of  $\frac{3}{5} \div \frac{1}{2} + \frac{2}{3} \times \frac{9}{8} - \frac{3}{4}$  is \_\_\_\_.

- A)  $\frac{5}{12}$                       B) 12                      C)  $\frac{13}{20}$                       D)  $\frac{6}{5}$

Q.46) If  $\frac{x-8}{5} = \frac{x-12}{9}$ , then the value of x is \_\_\_\_.

- A) 5                      B) 4                      C) 3                      D) 1

Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

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Q.47) The angles of a quadrilateral are in the ratio 2 : 4 : 5 : 9, then the angles of the quadrilateral are \_\_\_\_\_.

- A)  $40^\circ$ ,  $75^\circ$ ,  $105^\circ$  and  $140^\circ$                       B)  $45^\circ$ ,  $75^\circ$ ,  $105^\circ$  and  $135^\circ$   
C)  $36^\circ$ ,  $72^\circ$ ,  $90^\circ$  and  $162^\circ$                       D)  $45^\circ$ ,  $70^\circ$ ,  $110^\circ$  and  $135^\circ$

Q.48) To construct a quadrilateral PQRS with  $PQ = 5$  cm,  $QR = 7$  cm,  $RS = SP = 6.2$  cm and the diagonal  $PR = 9$  cm, the steps involved are written below:

- (i) Draw a line  $PR = 9$  cm.  
(ii) With P as centre draw an arc with radius 5 cm.  
(iii) With R as centre and radius 7 cm, draw an arc in the same side which intersects the arc at Q.  
(iv) Join P and Q, Q and R, R and S, S and P.  
(v) With P as centre and radius 6.2 cm, draw an arc on the side of PR opposite to that of Q.  
(vi) With R as centre and radius 6.2 cm, draw another arc on the same side which intersects the arc at S.

The correct sequence of the construction is \_\_\_\_\_.

- A) i, ii, iii, vi, v, iv                      B) i, ii, iii, iv, vi, v  
C) iii, ii, i, v, vi, iv                      D) i, ii, iii, v, vi, iv

Q.49) Eleven bags of wheat flour, each marked 5 kg, actually contained the following weights of flour (in kg)

4.97, 5.05, 5.08, 5.03, 5.00, 5.06, 5.08, 4.98, 5.04, 5.07, 5.00

The probability that any of these bags chosen at random contains more than 5 kg of flour is \_\_\_\_\_.

- A)  $\frac{3}{11}$                       B)  $\frac{9}{11}$                       C)  $\frac{7}{11}$                       D)  $\frac{4}{11}$

Q.50) The square root of 4.41 is \_\_\_\_\_.

- A) 2                      B) 2.1                      C) 2.5                      D) 2.3

Q.51) The cube root of -27000 is \_\_\_\_\_.

- A) 30                      B) -30                      C) 35                      D) -35

Q.52) The cost of a machine depreciates every year by 10 % of its cost at the beginning of the year. If the present cost of the machine is Rs 10000, then the cost after one year is \_\_\_\_\_.

- A) Rs 9300                      B) Rs 9040                      C) Rs 9000                      D) Rs 9350

Q.53)  $\left[\left(\frac{56}{28}\right)^0 \div \left(\frac{2}{5}\right)^3\right] \times \left(\frac{16}{25}\right) =$  \_\_\_\_\_.

- A) 10                      B) 11                      C) 12                      D) 15

Dream Scholars League 2014-15

Class VIII: Mathematics Scholarship Exam: Sample Question Paper

Q.54) If 5 metres of cloth costs Rs 48, then the cost of 23 metres of cloth is \_\_\_\_\_.  
 A) Rs 220                      B) Rs 220.10                      C) Rs 220.80                      D) Rs 221.80

Q.55) The value of  $\frac{\frac{-2}{3} \times \frac{3}{2} + \frac{5}{2} - \frac{3}{2} \times \frac{1}{6}}{\frac{2}{3} \times (\frac{-3}{7}) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{3}}$  is \_\_\_\_\_.  
 A)  $\frac{11}{56}$                       B)  $\frac{-11}{56}$                       C)  $\frac{56}{11}$                       D)  $\frac{-56}{11}$

Q.56) If  $\frac{3x}{x+6} - \frac{x}{x+5} = 2$ , then the value of x is \_\_\_\_\_.  
 A)  $\frac{-60}{17}$                       B)  $\frac{8}{13}$                       C)  $\frac{60}{17}$                       D)  $\frac{-60}{13}$

Q.57) In a quadrilateral ABCD, if  $\angle A$ ,  $\angle B$ ,  $\angle C$  and  $\angle D$  are in the ratio 3 : 4 : 6 : 7, then the measures of the each angle of the quadrilateral are \_\_\_\_\_.  
 A)  $60^\circ$ ,  $72^\circ$ ,  $108^\circ$  and  $120^\circ$                       B)  $54^\circ$ ,  $70^\circ$ ,  $110^\circ$  and  $126^\circ$   
 C)  $54^\circ$ ,  $72^\circ$ ,  $108^\circ$  and  $126^\circ$                       D)  $50^\circ$ ,  $72^\circ$ ,  $108^\circ$  and  $130^\circ$

Q.58) To construct a quadrilateral PQRS where PQ = 6 cm, QR = 7.5 cm, PR = 10.5 cm, PS = 4.5 cm and QS = 9 cm, the steps involved are written below:

- (i) Draw PQ = 6 cm.
- (ii) With P as centre and radius 10.5 cm, draw another arc which intersects the previous arc at the point R.
- (iii) With Q as centre and radius 7.5 cm, draw an arc.
- (iv) With P as centre and radius 4.5 cm, draw an arc.
- (v) Join Q and R.
- (vi) With Q as centre and radius 9 cm, draw another arc which intersects the previous arc at the point S.
- (vii) Join P and S, R and S.

The correct sequence of the construction is \_\_\_\_\_.

- A) i, iii, ii, v, iv, vi, vii                      B) i, v, ii, vi, iv, iii, vii
- C) i, iii, ii, iv, v, vi, vii                      D) i, ii, iii, vii, iv, vi, v

Q.59) 1500 families with 2 children were selected randomly, and the following data were recorded:

Number of boys in a family	2	1	0
Number of families	211	475	814

The probability of a family chosen at random, having two boys is \_\_\_\_\_.

- A)  $\frac{211}{1550}$                       B)  $\frac{111}{1500}$                       C)  $\frac{211}{1500}$                       D)  $\frac{11}{30}$

Q.60) The value of  $\sqrt[3]{4\frac{12}{125}}$  is \_\_\_\_\_.  
 A)  $1\frac{2}{5}$                       B)  $1\frac{3}{5}$                       C)  $1\frac{4}{5}$                       D)  $2\frac{2}{5}$