PERCENTILE CLASSES

Sequences, Series and Progression

Practice Sheet

1. *Find the 41st term of the progression 3, 8, 13, 18, ...:?*

   A. 102 **B.** 203

   C. 304 **D.** none

2. *Find the 25th term of the A.P. 10, 6, 2, -2, -6, -10.....:*

   A. -86 **B.** 106

   C. 96 **D.** none

3. *What term of the A.P. 2, 5, 8, ... Is 56 ?*

   A. 20 **B.** 21

   C. 19 **D.** 15

4. *What is the 10th term of the sequences 2, 4, ...?*

   A. 18 **B.** 20

   C. 1024 **D.** Can't be determined

5. *If the3rd and 7th terms of an A.P. are 17 and 27 respectively. Find the first term of an A.P. :*

   A. 9 **B.** 12

   C. 14 **D.** none

6. *Find the nth term of an A.P. whose 6th and 8th terms are 12 and 22 resp. :*

   A. 7n-30 **B.** N^2-24

   C. 5n-18 **D.** none

7. *7 times the seventh term of an A.P. Is equal to 11 times its eleventh term, the value of 18th term of the A.P.:*

   A. 0 **B.** -8

   C. 18 **D.** 77

8. *If the pth, qth and rth terms of an A.P. are a, b, c resp.., then the value of* ***a(q-r) + b(r-p) + c(p-q)*** *is :*

   A. 0 **B.** 1

   C. abc **D.** pqr

9. *If the pth term of an A.P. is q and qth term is p then its mth term is :*

   A. pq/m **B.** pq-m

   C. p + q - m **D.** pqm

10. *Find the sum of the A.P. 11, 13, 15, ..., 99:*

A. 2475
B. 2500
C. 1122
D. 1580

11. *Find the numbers of terms in the A.P. 22, 28, 34,....616 :*

A. 80
B. 78
C. 99
D. 100

12. *Find the sum of 222, 224, 226, ..., 888 :*

A. 185370
B. 195300
C. 183000
D. 899000

13. *If the second and seventh terms of an A.P. are 2 and 22 resp. Find the sum of first 35 terms:*

A. 2310
B. 3210
C. 2130
D. none

14. *The 12^{th} term of an A.P. is -13 and the sum of the first four terms of it is 24. Find the sum of its first ten terms :*

A. -48
B. -26
C. 0
D. 52

15. *The third term of an A.P. is 1/5 and the 5^{th} term is 1/3. Find the sum to 15 terms of the A.P.*

A. 1/15
B. 3/5
C. 8
D. 15

16. *How many terms of the A.P. 1, 4, 7, ... are needed to give the sum 925 ?*

A. 20
B. 22
C. 24
D. 25

17. *How many terms of the series 20 + 16 + 12 + ... amounts to 48 ?*

A. 3
B. 5
C. 8
D. Both a and c

18. *P, q, r, s, t are first terms of an A.P. such that p + r + t = -12 and p.q.r = 8. Find the first term of the above A.P. :*

A. 3
B. 2
C. 4
D. -4

19. *The sum of all the terms of the A.P. 7, 10, 13,... l is 1242, where l is the last term of the A.P. Find the value of l.*

A. 67
B. 79
C. 85
D. 102

20. *Find the sum of all the integers between 55 and 5555 which are divisible by 7 :*

A. 678 B. 786

C. 876 D. none

21. *Find the 22nd term of the G.P. -2, 2, -2, ...:*

A. -22 B. -2

C. 2 D. none

22. *Find the7th term of the series -1/8 + ¼ - ½ + 1 ...:*

A. 8 B. 16

C. -8 D. none

23. *The 5th, 8th and 11th terms of a G.P. are a, b, c resp, then which one of the following istrue*

A. $2b = ac$ B. $B^2 = ac$

C. $a + b + c = 0$ D. none

24. *The 5th and 12th terms of a G.P. are 32 and 4096 resp. Find the nth term of the G.P.:*

A. 2^n B. N^2

C. $2n^2$ D. none

25. *What is the least number of terms of the G.P. 5 + 10 + 20 + ... whose sum would surely exceed 10^6 ?*

A. 17 B. 18

C. 19 D. 20

26. *The A.M of two positive numbers is 15 and their G.M. is 12.What is the smaller number ?*

A. 8 B. 12

C. 6 D. 24

27. *The sum of 3 numbers in G.P. is 38 and their product is 1728. Find the greatest number :*

A. 24 B. 18

C. 16 D. 8

28. *The sum of first three terms of a G.P. is to the sum of the first six terms is 125 : 152. Find the common ratio of the G.P.*

A. 3/5 B. 3

C. 2/5 D. 5/8

29. *The sum of three numbers in G.P. is 14. If the first two terms are each increased by 1 and the third term is decreased by 1, the resulting numbers are in A.P. Find the product of these three numbers*

A. 125 B. 64

C. 216 D. 124

30. *The third term of a G.P. is 4. The product of first five terms is :*

A. 4^3 B. 4^4

C. 4^5 D. none

31. *The sum of first three terms of a G.P. is 21 and the sum of their squares is 189. Find the common ratio:*

A. ½ or 2 B. 3 or 1/3

C. 4 ore ¼ D. none

32. The sum of the first and the third term of a G.P. is 15 and that of the 5^{th} and the 7^{th} terms is 240. Find the 9^{th} term :

A. 678 B. 786

C. 867 D. 768

33. *Sum of three consecutive terms in a G.P. is 42 and their product is 512. Find the largest of these numbers*

A. 28 B. 16

C. 32 D. none

34. *The sum of three numbers in G.P. is 70, if the two extremes be multiplied by 4 and the mean by 5, the new numbers so formed are in A.P. Find the product of original numbers :*

A. 8000 B. 6000

C. 7000 D. none

35. *The sum of fours terms in G.P. is 312. The sum of first and fourth term is 252. Find the product of second and third term :*

A. 500 B. 150

C. 60 D. none

36. *A bouncing tennis ball rebounds each time to a height equal to one half the height of the previous bounce. If it is dropped from a height of 16m, find the total distance it has travelled when it hits the ground for the 10^{th} time :*

A. $47\frac{15}{16}$ B. $37\frac{5}{16}$

C. $67\frac{11}{16}$ D. none

37. *The numbers of terms in an A.P. is even, the sum of odd terms is 63 and that of even terms is 72 and the last term exceeds the first term by 16.5. Find the number of terms:*

A. 8 **B.** 12

C. 9 **D.** 10

38. *Find the sum of three numbers in G.P. whose product is 216 and the sum of the products of them taken in pairs is 126 :*

A. 28 **B.** 21

C. 35/4 **D.** none

39. *The sum of four consecutive terms in A.P. is 36 and the ratio of product of the first and fourth is to the product of the second and third is 9:10. Find the largest of the numbers :*

A. 9 **B.** 10

C. 8 **D.** 12

40. *The sum four integers in A.P. is 24 and their product is 945. Find the product of the smallest and the greatest integers :*

A. 30 **B.** 27

C. 35 **D.** 39

41. *In an A.P. consisting of 23 terms, the sum of the three terms in the middle is 114 and that of the last three is 204. Find the sum of first three terms :*

A. 14 **B.** 42

C. 24 **D.** 69

42. *The sum of an infinite G.P. is 4 and the sum of their cubes is 192. Find the first term :*

A. 4 **B.** 8

C. 6 **D.** 2

43. *Vibhor joined as an area manager of Quick Corporation in the pay scale of Rs. 12,000 – 500 – 18,500. Minimum how many years he has to work in the corporation to avail the salary of Rs. 18,500 per month :*

A. 12 years **B.** 10 years

C. 13 years **D.** 11 years

44. *How many terms are common in two arithmetic progression 1, 4, 7, 10, ...upto 63 terms and 3,7,11, 15,... upto 47 terms :*

A. 12 **B.** 16

C. 15 **D.** none

45. *The value of $3^{1/3} \cdot 9^{1/18} \cdot 27^{1/81}$....:*

A. 3 **B.** 9

C. 27 **D.** none

DIRECTION for question number 46 – 47 : In the kingdom of YAMRAJ, there are certain number of souls in a particular day. Where a single soul can merge with another soul in every second and thus two souls reduced to a single soul and if any soul can not merge with anyother soul in a particular second then it has to become a ghost and suffer in the hell. Thus every soul tries to avoid to become a ghost, but after a certain time it has to go to hell after maximum possible survival.

46. *In a particular day there were $(2^{43200} - 1)$ souls after how many seconds will all the souls become ghost:*

A. 43200

B. 43199

C. 43201

D. 21600

47. *If after n seconds there are k souls left, then what is the maximum number of souls there can be initially in a particular day ?*

A. $2^{k.n}$

B. $2^{kn} + 2k$

C. $2^{n}k + 2^{n} - 1$

D. $2^{k}n + 2^{n} + 1$

48. *The income of HBI on the nth day is Rs.$(n^2 + 2)$ and the expenditure of HBI on the nth day is Rs. $(2n + 1)$*

Also income = expenditure + savings

In how many days his total saving will be Rs. 1240. :

A. 10

B. 12

C. 15

D. 16

DIRECTION for question number 49 – 50: In the zoological park Bhopal there are four kinds of animals viz. Elephant, monkey, lion and tiger which are in increasing G.P. and in local zoo Indore there are same kinds of animals but are in A.P. The numbers of elephants are least and equal in each place. Also the number of monkeys in each of the places is same but just greater than the Elephants. Total number of animals in zoological park is 50% more than the local zoo. Also the common ratio pf the G.P. is same as the common difference of the A.P. Numbers of tigers in both the places is maximum.

49. *What is the number of elephants in each of the places?*

A. 1

B. 2

C. 3

D. 4

50. *What is the number of lions in zoological park Bhopal?*

A. 5

B. 6

C. 8

D. Can not be determine

ANSWERS

1	B	11	D	21	C	31	A	41	C
2	A	12	A	22	C	32	D	42	C
3	C	13	A	23	B	33	C	43	C
4	D	14	C	24	A	34	A	44	B
5	B	15	C	25	B	35	A	45	D
6	C	16	D	26	C	36	A	46	C
7	A	17	D	27	B	37	B	47	C
8	A	18	B	28	A	38	C	48	C
9	C	19	C	29	B	39	B	49	B
10	A	20	D	30	C	40	C	50	D

PERCENTILE CLASSES

AVEREGES/MIXTURES/ALLIGATIONS

Practice Sheet

1. In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

   A. 6.25 **B.** 6.5

   C. 6.75 **D.** 7

---

2. A family consists of two grandparents, two parents and three grandchildren. The average age of the grandparents is 67 years, that of the parents is 35 years and that of the grandchildren is 6 years. What is the average age of the family?

   A. $28\frac{4}{7}$ years **B.** $31\frac{5}{7}$ years

   C. $32\frac{1}{7}$ years **D.** None of these

---

3. A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?

   A. Rs. 4991 **B.** Rs. 5991

   C. Rs. 6001 **D.** Rs. 6991

---

4. The average of 20 numbers is zero. Of them, at the most, how many may be greater than zero?

   A. 0 **B.** 1

   C. 10 **D.** 19

---

5. The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?

   A. 76 kg **B.** 76.5 kg

   C. 85 kg **D.** Data inadequate

   E. None of these

6. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

A. 23 years
B. 24 years
C. 25 years
D. None of these

7. The average monthly income of P and Q is Rs. 5050. The average monthly income of Q and R is Rs. 6250 and the average monthly income of P and R is Rs. 5200. The monthly income of P is:

A. 3500
B. 4000
C. 4050
D. 5000

8. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:

A. 35 years
B. 40 years
C. 50 years
D. None of these

9. A car owner buys petrol at Rs.7.50, Rs. 8 and Rs. 8.50 per litre for three successive years. What approximately is the average cost per litre of petrol if he spends Rs. 4000 each year?

A. Rs. 7.98
B. Rs. 8
C. Rs. 8.50
D. Rs. 9

10. In Arun's opinion, his weight is greater than 65 kg but less than 72 kg. His brother doest not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are them are correct in their estimation, what is the average of different probable weights of Arun?

A. 67 kg.
B. 68 kg.
C. 69 kg.
D. Data inadequate
E. None of these

21. A vessel is filled with liquid, 3 parts of which are water and 5 parts syrup. How much of the mixture must be drawn off and replaced with water so that the mixture may be half water and half syrup?

A. $\frac{1}{3}$
B. $\frac{1}{4}$
C. $\frac{1}{5}$
D. $\frac{1}{7}$

22. Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a third variety in the ratio 1 : 1 : 2. If

the mixture is worth Rs. 153 per kg, the price of the third variety per kg will be:

A. Rs. 169.50 **B.** Rs. 170

C. Rs. 175.50 **D.** Rs. 180

---

23. A can contains a mixture of two liquids A and B is the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?

A. 10 **B.** 20

C. 21 **D.** 25

---

24. A milk vendor has 2 cans of milk. The first contains 25% water and the rest milk. The second contains 50% water. How much milk should he mix from each of the containers so as to get 12 litres of milk such that the ratio of water to milk is 3 : 5?

A. 4 litres, 8 litres **B.** 6 litres, 6 litres

C. 5 litres, 7 litres **D.** 7 litres, 5 litres

---

25. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?

A. 3 : 7 **B.** 5 : 7

C. 7 : 3 **D.** 7 : 5

26. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is:

A. 4% **B.** $6\frac{1}{4}\%$

C. 20% **D.** 25%

---

27. How many kilogram of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?

A. 36 kg **B.** 42 kg

C. 54 kg **D.** 63 kg

---

28. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?

A. 26.34 litres **B.** 27.36 litres

C. 28 litres **D.** 29.l6 litres

29. A jar full of whisky contains 40% alcohol. A part of this whisky is replaced by another containing 19% alcohol and now the percentage of alcohol was found to be 26%. The quantity of whisky replaced is:

A. $\frac{1}{3}$ **B.** $\frac{2}{3}$

C. $\frac{2}{5}$ **D.** $\frac{3}{5}$

30. In what ratio must water be mixed with milk to gain $16\frac{2}{3}\%$ on selling the mixture at cost price?

A. 1 : 6 **B.** 6 : 1

C. 2 : 3 **D.** 4 : 3

31. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.

A. 1 : 3 **B.** 2 : 3

C. 3 : 4 **D.** 4 : 5

32. In what ratio must a grocer mix two varieties of tea worth Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at Rs. 68.20 a kg he may gain 10%?

A. 3 : 2 **B.** 3 : 4

C. 3 : 5 **D.** 4 : 5

33. The cost of Type 1 rice is Rs. 15 per kg and Type 2 rice is Rs. 20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then the price per kg of the mixed variety of rice is:

A. Rs. 18 **B.** Rs. 18.50

C. Rs. 19 **D.** Rs. 19.50

34. 8 litres are drawn from a cask full of wine and is then filled with water. This operation is performed three more times. The ratio of the quantity of wine now left in cask to that of water is 16 : 81. How much wine did the cask hold originally?

A. 18 litres **B.** 24 litres

C. 32 litres **D.** 42 litres

35. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is:

A. 400 kg **B.** 560 kg

C. 600 kg **D.** 640 kg

ANSWERS

1. A 2. B 3. A 4. D 5. C
6. A 7. B 8. B 9. A 10. A
21. C 22. C 23. C 24. B
25. C
26. C 27. D 28. D 29. B
30. A
31. B 32. A 33. A 34. B
35. C

NO SUBSTITUTE TO HARDWORK

PERCENTILE CLASSES

LINE, TRIANGLES & POLYGONS

Practice Sheet

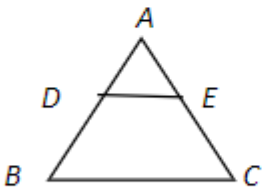
1. *A Ladder is placed in such a way that its foot is at a distance of 5 m from a wall and its top reaches a window 12 m above the ground. The length of the ladder is*

   A. 11 m **B.** 12 m

   C. 13 m **D.** None

---

2. *In the given figure, DE II BC. If DE = 4 cm, BC = 8 cm and area of tri ADE = 25 cm, then the area of tria ABC is*

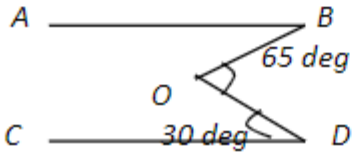


   A. 70 sq cm **B.** 100 sq cm

   C. 150 sq cm **D.** None

---

3. *In the given figure, AB II CD, with some measures given the measure of angle ABO is:*



   A. 35 deg **B.** 95 deg

   C. 30 deg **D.** None

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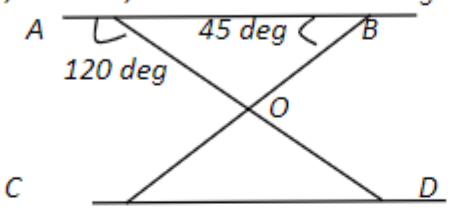
4. *In the given figure, AB II CD, with some measures given, the measures of the angles of the triangle OCD in increasing order are*



   A. 45, 60, 75 / deg **B.** 45, 65, 70 / deg

   C. 45, 55, 80 / deg **D.** None

---

5. *If a ladder 13 m long reaches a window of a house 12 m above the ground, then the distance of the foot of the ladder from the house is*

   A. 6 m **B.** 5 m

   C. 7 m **D.** None

6. *In the given figure, AM is perpendicular to BC, AN is the angle bisector of angle A, then angle MAN is*

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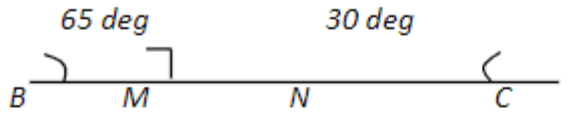


A. 15 deg

B. 32.5 deg

C. 17.5 deg

D. None

7. *A vertical stick 10 cm long casts a shadow 8 cm long. At the same time a tower casts a shadow 30 m long. The height of the tower is*

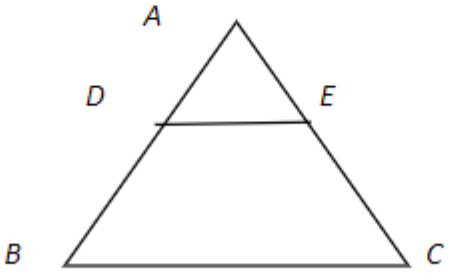
A. 36.3 m

B. 33.2 m

C. 37.5 m

D. None

8. *In the given figure, DE II BC, AD = 2 cm, DB = 3 and AC = 6 cm. Find AE.*



A. 2.4 cm

B. 1.2 cm

C. 3.4 cm

D. None

9. *Which of the following quadrilaterals has diagonals equal in length?*

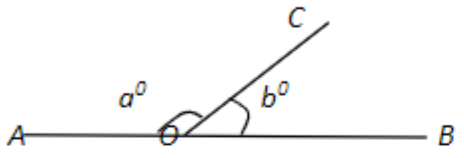
A. Rhombus

B. Parallelogram

C. Trapezium

D. Rectangle

10. *In the given figure $a^0 - b^0 = 70^0$. The value of a is*



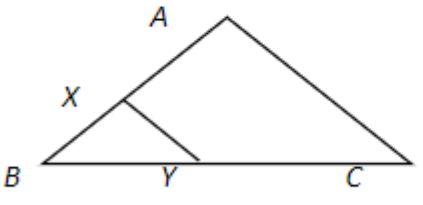
A. 110^0

B. 120^0

C. 125^0

D. None

11. *In the given figure, XY II AC, If XY divides the triangle into two parts of equal area, the AX : AB is*



NO SUBSTITUTE TO HARDWORK

A. $1 : 2$

B. $1 : 2^{1/2}$

C. $2^{1/2} : 1$

D. $2 : 1$

---

12. *The perimeter of two similar triangles ABC and PQR are resp. 36 cm and 24 cm. If PQ = 10cm, then AB is*

A. 14 cm

B. 15 cm

C. 16 cm

D. None

---

13. *A vertical stick 10 cm long casts a shadow 6 cm long on the ground. Under similar conditions a tower casts a shadow 10 m long. Determine the height of the tower to the second place of decimal.*

A. 16.67 m

B. 17.7 m

C. 16.8 m

D. None

---

14. *If two equal angles are supplementary, then each one measures*

A. 90^0

B. 45^0

C. 60^0

D. None

---

15. *Two triangles ABC and DEF are similar to each other in which AB = 10 cm and DE = 8 cm. Find the ratio of the areas of triangle ABC and DEF?*

A. 4 : 7

B. 25 : 16

C. 4 : 17

D. None

---

16. *If each interior angle of a regular polygon is 135^0, then the polygon is*

A. Pentagon

B. Hexagon

C. Octagon

D. Nonagon

---

17. *The difference between the interior and exterior angles of a regular polygon is 60^0. The polygon is*

A. Pentagon

B. Hexagon

C. Octagon

D. Decagon

---

18. *The perimeters of two similar triangles are 30 cm and 20 cm resp. If one side of the first triangle is 15cm, then the corresponding side of the other triangle is*

A. 10 cm

B. 15 cm

C. 12 cm

D. 14 cm

---

19. *The complement of an angle of 48^0 is*

A. 132^0

B. 42^0

C. 48^0

D. None of these

---

20. *The exterior angle of a regular polygon is one-third of its interior angles. How many sides does the polygon have?*

A. 10 B. 6

C. 8 D. 4

21. *The hypotenuse of a right angled triangle is 25 cm. The difference between the other two sides is 5 cm. Their lengths are*

A. 10 & 15 cm B. 15 & 20 cm

C. 20 & 25 cm D. None

22. *The lengths of the sides of a triangle are 12 cm, 16 cm, and 21 cm. The bisector of the greatest angle divides the opposite side into two parts. Find the lengths of these parts.*

A. 9 cm, 12 cm B. 8 cm, 3 cm

C. 7 cm, 6 cm D. None

---

23. *The ratio of the corresponding sides of two similar triangles is 2:3. The ratio of their corresponding heights is*

A. 2 : 3 B. 3 : 2

C. 4 : 9 D. 9 : 4

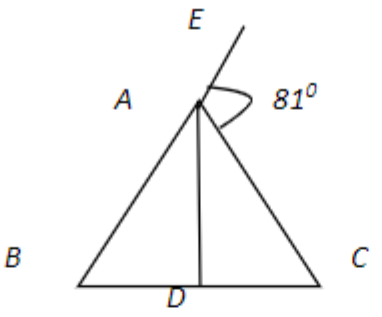
---

24. *The areas of two similar triangles are 36 sq cm and 81 sq cm resp. The ratio of their corresponding sides is*

A. 3:2 B. 9:4

C. 4:9 D. 2:3

25.. *In the given figure, AD = BD = AC. If angle CAE = 81^0, then the measures of angle ACD is*



A. 40.5^0 B. 81^0

C. 54^0 D. None

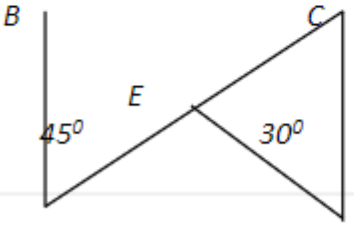
---

26. *If both the pairs of opposite sides of a quadrilateral are equal, then it is a*

A. Parallelogram B. Rectangle

C. Square D. Rhombus

27. *In the given figure, AB II CD, with angle BAC = 45^0 and angle CDE = 30^0, the measure of angle DEC is*



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A. 75^0

B. 90^0

C. 105^0

D. None

28. *One of the interior angles of a hexagon is 100^0 and the rest five angles are equal. The measures of the equal angles is*

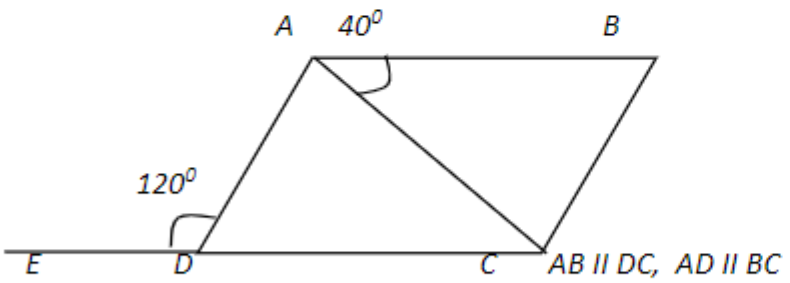
A. 80^0

B. 90^0

C. 124^0

D. None

29. *In the given figure, ABCD is a parallelogram. The measures of the angles of the triangle ADC in ascending order are:*



A. $40^0, 60^0, 80^0$

B. $30^0, 70^0, 80^0$

C. $40^0, 50^0, 90^0$

D. None

30. *Two regular polygons are such that the ratio between their numbers of sides is 1:2 and the ratio of measures of their angles is 3:4. Find the number of sides of each polygon.*

A. 6, 12

B. 5, 10

C. 7, 14

D. 4, 8

31. *P and Q are the points on the sides AB and AC resp. of a triangle ABC. If AP = 2 cm, PB = 4 cm, AQ = 3cm, QC = 6 cm. Then BC/PQ = ?*

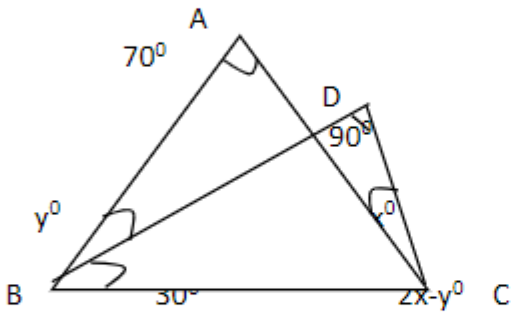
A. 4

B. 2

C. 3

D. 5

32. What is the value of angle DCA + angle ABD in the given figure?



A. 100^0

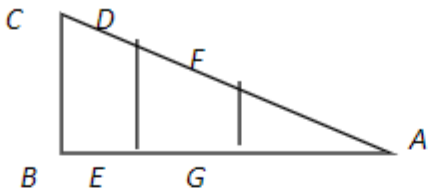
B. 70^0

C. 50^0

D. 40^0

33. *In the given figure, ABC is a right angled triangle. Also FG II DE II BC and AG = GE = EB. If DE = 12 cm, then the measure of BC is..*

NO SUBSTITUTE TO HARDWORK



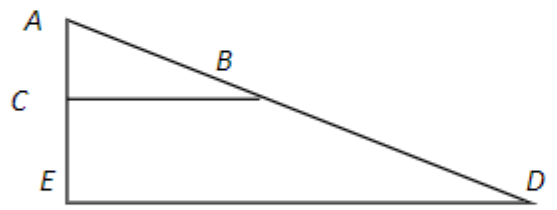
A. 12 cm

B. 18 cm

C. 24 cm

D. 30 cm

34. *Line BC divides Triangle ADE into 2 sections, one of them an isosceles triangle (AB = AC). Angle DBC is equal to 105^0. What is the sum of the measures of angles D and E?*



A. 100^0

B. 125^0

C. 150^0

D. 175^0

35. *The sides of a triangle are in the ratio of 6:8:9. Thus the triangle is*

A. Acute

B. Right-Angled

C. Obtuse

D. None

36. *In a right-angled triangle, the product of the two sides to the half of square of the third side, i.e. hypotenuse. One of the acute angles may be*

A. 60^0

B. 30^0

C. 45^0

D. 15^0

37. *The interior angle of the regular polygon exceeds angle by 132^0. The number of sides in the polygon will be*

A. 10

B. 16

C. 12

D. 15

38. *If the arms of one angle are resp. parallel to the arms of another angle, then the two angles are*

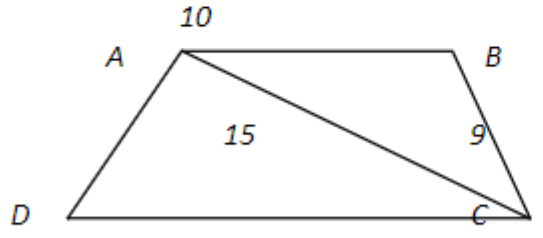
A. Not equal, but supplementary

B. Either equal or supplementary

C. Equal, but not supplementary

D. Neither equal nor supplementary

39. *In the given figure, BA is parallel to CD and AB = 10 cm, BC = 9 cm and AC = 15 cm. Also angle CBA = angle DAC. Find the length of AD.*



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A. 13 cm

B. 27/2 cm

C. 50/3 cm

D. None

---

40. *If the angles of a quadrilateral are in the ratio of 1:4:2:3, what kind of quadrilateral is it?*

A. Rectangle

B. Square

C. Trapezium

D. Rhombus

---

41. *How many sides does a regular polygon have whose exterior angle is 1/11 of its interior angle?*

A. 22

B. 24

C. 20

D. 26

42. *The angles of a pentagon are x^0, $x+20^0$, $x+40^0$, $x+60^0$, and $x+80^0$. The smallest angle of the pentagon*

A. 65^0

B. 70^0

C. 68^0

D. 60^0

---

43. *In a triangle ABC, the altitudes BD and CE are equal and angle A = 36^0.What is the value of the angle B*

A. 65^0

B. 60^0

C. 75^0

D. 72^0

---

44. *The lengths of the sides of the triangle are given below.In which of the following cases,a triangle can't formed?*

A. 17, 5, 9

B. 12, 8, 5

C. 6, 4, 5

D. 10, 12, 15

---

45. *The interior angle of a regular polygon exceeds the exterior angle by 140^0. Find the number of sides of polygon*

A. 18

B. 22

C. 25

D. 15

---

46. Two regular polygons have the number of their sides as 3:2 and the interior angles as 10:9. Find the respective number of sides of the polygons.

A. 9, 6

B. 14, 8

C. 12, 8

D. 18, 12

47. *In a triangle PQS, R is any point on PS, such that PR = QR and QS = RS. If angle RSQ = 120^0, what is the measure of angle QPR?*

A. 15^0

B. 25^0

C. 16.5^0

D. 30^0

---

48. *The sum of the interior angles of a regular polygon is twice the sum of its exterior angles. The polygon is*

A. Hexagon

B. Octagon

C. Nonagon

D. Decagon

---

49. *AB and CD are parallel straight lines of length 5 cm and 4 cm resp. AD and BC intersect at a point O such that AO = 10 cm. Then OD is equal to*

A. 10 cm

B. 8 cm

C. 6 cm

D. 4 cm

---

50. If an angle of a parallelogram is a right angle, then it is a

A. Square

B. Rhombus

C. Rectangle

D. Trapezium

1	C	11	B	21	B	31	C	41	B
2	B	12	B	22	A	32	D	42	C
3	A	13	A	23	A	33	B	43	D
4	A	14	A	24	D	34	C	44	A
5	B	15	B	25	C	35	A	45	A
6	C	16	C	26	A	36	C	46	C
7	C	17	B	27	C	37	D	47	A
8	A	18	A	28	C	38	B	48	A
9	D	19	B	29	A	39	B	49	B
10	C	20	C	30	B	40	C	50	C

PERCENTILE CLASSES

LOGARITHM

Practice Sheet

1. Which of the following statements is not correct?

   A. $\log_{10} 10 = 1$

   B. $\log (2 + 3) = \log (2 \times 3)$

   C. $\log_{10} 1 = 0$

   D. $\log (1 + 2 + 3) = \log 1 + \log 2 + \log 3$

---

2. If $\log 2 = 0.3010$ and $\log 3 = 0.4771$, the value of $\log_5 512$ is:

   A. 2.870 **B.** 2.967

   C. 3.876 **D.** 3.912

---

3. $\frac{\log 8}{\log 8}$ is equal to:

   A. $\frac{1}{8}$ **B.** $\frac{1}{4}$

   C. $\frac{1}{2}$ **D.** $\frac{1}{8}$

---

4. If $\log 27 = 1.431$, then the value of $\log 9$ is:

   A. 0.934 **B.** 0.945

   C. 0.954 **D.** 0.958

---

5. If $\log \frac{a}{b} + \log \frac{b}{a} = \log (a + b)$, then:

   A. $a + b = 1$ **B.** $a - b = 1$

   C. $a = b$ **D.** $a^2 - b^2 = 1$

6. If $\log_{10} 7 = a$, then $\log_{10}\left(\frac{1}{70}\right)$ is equal to:

A. $-(1+a)$ **B.** $(1+a)^{-1}$

C. $\frac{a}{10}$ **D.** $\frac{1}{10a}$

---

7. If $\log_{10} 2 = 0.3010$, then $\log_2 10$ is equal to:

A. $\frac{699}{301}$ **B.** $\frac{1000}{301}$

C. 0.3010 **D.** 0.6990

---

8. If $\log_{10} 2 = 0.3010$, the value of $\log_{10} 80$ is:

A. 1.6020 **B.** 1.9030

C. 3.9030 **D.** None of these

---

9. If $\log_{10} 5 + \log_{10}(5x+1) = \log_{10}(x+5) + 1$, then x is equal to:

A. 1 **B.** 3

C. 5 **D.** 10

---

10. The value of $\left(\frac{1}{\log_3 60} + \frac{1}{\log_4 60} + \frac{1}{\log_5 60}\right)$ is:

A. 0 **B.** 1

C. 5 **D.** 60

11. If $\log 2 = 0.30103$, the number of digits in 2^{64} is:

A. 18 **B.** 19

C. 20 **D.** 21

---

12. If $\log_x\left(\frac{9}{16}\right) = -\frac{1}{2}$, then x is equal to:

A. $-\frac{3}{4}$ **B.** $\frac{3}{4}$

C. $\frac{81}{256}$ **D.** $\frac{256}{81}$

---

13. If $a^x = b^y$, then:

A. $\log \frac{a}{b} = \frac{x}{y}$

B. $\frac{\log a}{\log b} = \frac{x}{y}$

C. $\frac{\log a}{\log b} = \frac{y}{x}$

D. None of these

---

14. If $\log_x y = 100$ and $\log_2 x = 10$, then the value of y is:

A. 2^{10}

B. 2^{100}

C. 2^{1000}

D. 2^{10000}

---

15. The value of $\log_2 16$ is:

A. $\frac{1}{8}$

B. 4

C. 8

D. 16

1	B	4	C	7	B	10	B	13	C
2	C	5	A	8	B	11	C	14	C
3	C	6	A	9	B	12	D	15	B

PERCENTILE CLASSES

P-C/PROBABILITY

Practice Sheet

1. *From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?*

   A. 564 B. 645

   C. 735 D. 756

---

2. *In how many different ways can the letters of the word 'LEADING' be arranged in such a way that the vowels always come together?*

   A. 360 B. 480

   C. 720 D. 5040

3. *In how many different ways can the letters of the word 'CORPORATION' be arranged so that the vowels always come together?*

   A. 810 B. 1440

   C. 2880 D. 50400

---

4. *Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?*

   A. 210 B. 1050

   C. 25200 D. 21400

---

5. *In how many ways can the letters of the word 'LEADER' be arranged?*

   A. 72 B. 144

   C. 360 D. 720

6. *In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there?*

   A. 159 B. 194

   C. 205 D. 209

---

7. *How many 3-digit numbers can be formed from the digits 2, 3, 5, 6, 7 and 9, which are divisible by 5 and none of the digits is repeated?*

   A. 5 B. 10

C. 15 D. 20

8. *In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?*

A. 266 B. 5040

C. 11760 D. 86400

9. *A box contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the box, if at least one black ball is to be included in the draw?*

A. 32 B. 48

C. 64 D. 96

10. *In how many different ways can the letters of the word 'DETAIL' be arranged in such a way that the vowels occupy only the odd positions?*

A. 32 B. 48

C. 36 D. 60

11. *In how many ways can a group of 5 men and 2 women be made out of a total of 7 men and 3 women?*

A. 63 B. 90

C. 126 D. 45

12. *How many 4-letters words with or without meaning, can be formed out of the letters of the word, 'LOGARITHMS', if repetition of letters is not allowed?*

A. 40 B. 400

C. 5040 D. 2520

13. *In how many different ways can the letters of the word 'MATHEMATICS' be arranged so that the vowels always come together?*

A. 10080 B. 4989600

C. 120960 D. None of these

14. *In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?*

A. 120 B. 720

C. 4320 D. 2160

15. *Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket*

drawn has a number which is a multiple of 3 or 5?

A. $\frac{1}{2}$

B. $\frac{2}{5}$

C. $\frac{8}{15}$

D. $\frac{9}{20}$

16. *A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?*

A. $\frac{10}{21}$

B. $\frac{11}{21}$

C. $\frac{2}{7}$

D. $\frac{5}{7}$

17. *In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither red nor green?*

A. $\frac{1}{3}$

B. $\frac{3}{4}$

C. $\frac{7}{19}$

D. $\frac{8}{21}$

18. *What is the probability of getting a sum 9 from two throws of a dice?*

A. $\frac{1}{6}$

B. $\frac{1}{8}$

C. $\frac{1}{9}$

D. $\frac{1}{12}$

19. *Three unbiased coins are tossed. What is the probability of getting at most two heads?*

A. $\frac{3}{4}$

B. $\frac{1}{4}$

C. $\frac{3}{8}$

D. $\frac{7}{8}$

20. *Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?*

A. $\frac{1}{2}$

B. $\frac{3}{4}$

NO SUBSTITUTE TO HARDWORK

C. $\frac{3}{8}$

D. $\frac{5}{16}$

21. *In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that 1 girl and 2 boys are selected, is:*

A. $\frac{21}{46}$

B. $\frac{25}{117}$

C. $\frac{1}{50}$

D. $\frac{3}{25}$

22. *In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?*

A. $\frac{1}{10}$

B. $\frac{2}{5}$

C. $\frac{2}{7}$

D. $\frac{5}{7}$

23. *From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards being kings?*

A. $\frac{1}{15}$

B. $\frac{25}{57}$

C. $\frac{35}{256}$

D. $\frac{1}{221}$

24. *Two dice are tossed. The probability that the total score is a prime number is:*

A. $\frac{1}{6}$

B. $\frac{5}{12}$

C. $\frac{1}{2}$

D. $\frac{7}{9}$

25. *A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is:*

A. $\frac{1}{13}$

B. $\frac{2}{13}$

C. $\frac{1}{26}$

D. $\frac{1}{52}$

26. *A bag contains 4 white, 5 red and 6 blue balls. Three balls are drawn at random from the bag. The probability that all*

of them are red, is:

A. $\frac{1}{22}$ B. $\frac{3}{22}$

C. $\frac{2}{91}$ D. $\frac{2}{77}$

27. *Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is:*

A. $\frac{3}{20}$ B. $\frac{29}{34}$

C. $\frac{47}{100}$ D. $\frac{13}{102}$

28. *One card is drawn at random from a pack of 52 cards. What is the probability that the card drawn is a face card (Jack, Queen and King only)?*

A. $\frac{1}{13}$ B. $\frac{3}{13}$

C. $\frac{1}{4}$ D. $\frac{9}{52}$

Answer 01: Option D **Answer 02:** Option C Answer 03: Option D Answer 04: Option C
Answer 05: Option C Answer 06: Option D **Answer 07:** Option D Answer 08: Option C
Answer 09: Option C **Answer 10:** Option C Answer 11: Option A
Answer 12: Option C Answer 13: Option C **Answer 14:** Option B Answer 15: Option D
Answer 16: Option A Answer 17: Option A Answer 18: Option C
Answer 20: Option B Answer 21: Option A Answer 22: Option C
Answer 24: Option B Answer 25: Option C Answer 26: Option C
Answer 27: Option D Answer 28: Option B

PERCENTILE CLASSES

PERCENTAGE

Practice Sheet

1. A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?

   A. 45%

   B. $45\frac{5}{11}\%$

   C. $54\frac{6}{11}\%$

   D. 55%

---

2. Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are:

   A. 39, 30

   B. 41, 32

   C. 42, 33

   D. 43, 34

---

3. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:

   A. 588 apples

   B. 600 apples

   C. 672 apples

   D. 700 apples

---

4. What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?

   A. 1

   B. 14

   C. 20

   D. 21

---

5. If A = x% of y and B = y% of x, then which of the following is true?

   A. A is smaller than B.

   B. A is greater than B

   C. Relationship between A and B cannot be determined.

   D. If x is smaller than y, then A is greater than B.

   E. None of these

6. If 20% of a = b, then b% of 20 is the same as:

   A. 4% of a

   B. 5% of a

   C. 20% of a

   D. None of these

---

7. In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is $\frac{2}{3}$ of the number of students of 8 years of age which is 48. What is the total number of students in the school?

   A. 72

   B. 80

C. 120

D. 150

E. 100

8. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.

A. 2 : 3

B. 1 : 1

C. 3 : 4

D. 4 : 3

9. A student multiplied a number by $\frac{3}{5}$ instead of $\frac{5}{3}$.

What is the percentage error in the calculation?

A. 34%

B. 44%

C. 54%

D. 64%

10. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

A. 2700

B. 2900

C. 3000

D. 3100

11. Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get?

A. 57%

B. 60%

C. 65%

D. 90%

12. Two tailers X and Y are paid a total of Rs. 550 per week by their employer. If X is paid 120 percent of the sum paid to Y, how much is Y paid per week?

A. Rs. 200

B. Rs. 250

C. Rs. 300

D. None of these

13. Gauri went to the stationers and bought things worth Rs. 25, out of which 30 paise went on sales tax on taxable purchases. If the tax rate was 6%, then what was the cost of the tax free items?

A. Rs. 15

B. Rs. 15.70

C. Rs. 19.70

D. Rs. 20

14. Rajeev buys good worth Rs. 6650. He gets a rebate of 6% on it. After getting the rebate, he pays sales tax @ 10%. Find the amount he will have to pay for the goods.

A. Rs. 6876.10

B. Rs. 6999.20

C. Rs. 6654

D. Rs. 7000

15. The population of a town increased from 1,75,000 to 2,62,500 in a decade. The average percent increase of population per year is:

A. 4.37%

B. 5%

C. 6%

D. 8.75%

ANSWERS

1. B	**2. C**	**3. D**	**4. C**	**5. E**
6. A	**7. E**	**8. D**	**9. D**	**10. A**
11. A	**12. B**	**13. C**	**14. A**	**15. B**

PERCENTILE CLASSES

PROBLEMS ON AGES

Practice Sheet

1. Father is aged three times more than his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age?

   A. 2 times

   B. $2\frac{1}{2}$ times

   C. $2\frac{3}{4}$ times

   D. 3 times

---

2. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

   A. 4 years

   B. 8 years

   C. 10 years

   D. None of these

---

3. A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, the son's age five years back was:

   A. 14 years

   B. 19 years

   C. 33 years

   D. 38 years

---

4. A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, the how old is B?

   A. 7

   B. 8

   C. 9

   D. 10

   E. 11

---

5. Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?

   A. 24

   B. 27

   C. 40

   D. Cannot be determined

   E. None of these

6. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of his son is:

A. 14 years **B.** 18 years

C. 20 years **D.** 22 years

---

7. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?

A. 16 years **B.** 18 years

C. 20 years **D.** Cannot be determined

E. None of these

---

8. The sum of the present ages of a father and his son is 60 years. Six years ago, father's age was five times the age of the son. After 6 years, son's age will be:

A. 12 years **B.** 14 years

C. 18 years **D.** 20 years

---

9. At present, the ratio between the ages of Arun and Deepak is 4 : 3. After 6 years, Arun's age will be 26 years. What is the age of Deepak at present ?

A. 12 years **B.** 15 years

C. 19 and half **D.** 21 years

---

10. Sachin is younger than Rahul by 7 years. If their ages are in the respective ratio of 7 : 9, how old is Sachin?

A. 16 years **B.** 18 years

C. 28 years **D.** 24.5 years

E. None of these

11. The present ages of three persons in proportions 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years).

A. 8, 20, 28 **B.** 16, 28, 36

C. 20, 35, 45 **D.** None of these

---

12. Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?

A. 2 years **B.** 4 years

C. 6 years **D.** 8 years

13. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?

A. 32 years **B.** 36 years

C. 40 years **D.** 48 years

14. Q is as much younger than R as he is older than T. If the sum of the ages of R and T is 50 years, what is definitely the difference between R and Q's age?

A. 1 year **B.** 2 years

C. 25 years **D.** Data inadequate

E. None of these

15. The age of father 10 years ago was thrice the age of his son. Ten years hence, father's age will be twice that of his son. The ratio of their present ages is:

A. 5 : 2 **B.** 7 : 3

C. 9 : 2 **D.** 13 : 4

ANSWERS

1. A 2. A 3. A 4. D 5. A 6. D 7. A 8. D 9. B 10. D 11. B 12. C
13. C 14. D 15. B

PERCENTILE CLASSES

PROFIT-LOSS

Practice Sheet

1. Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, his gain percent is:

   A. $4\frac{4}{7}\%$
   B. $5\frac{5}{11}\%$
   C. 10%
   D. 12%

---

2. The cost price of 20 articles is the same as the selling price of *x* articles. If the profit is 25%, then the value of *x* is:

   A. 15
   B. 16
   C. 18
   D. 25

---

3. If selling price is doubled, the profit triples. Find the profit percent.

   A. $66\frac{2}{3}$
   B. 100
   C. $105\frac{1}{3}$
   D. 120

---

4. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?

   A. 30%
   B. 70%
   C. 100%
   D. 250%

---

5. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?

   A. 3
   B. 4
   C. 5
   D. 6

6. The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?

   A. Rs. 2000
   B. Rs. 2200
   C. Rs. 2400
   D. Data inadequate

---

7. A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit?

   A. Rs. 18.20
   B. Rs. 70
   C. Rs. 72
   D. Rs. 88.25

---

8. A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?

A. Rs. 1090
B. Rs. 1160
C. Rs. 1190
D. Rs. 1202

9. Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?

A. 3.5
B. 4.5
C. 5.6
D. 6.5

10. Some articles were bought at 6 articles for Rs. 5 and sold at 5 articles for Rs. 6. Gain percent is:

A. 30%
B. $33\frac{1}{3}\%$
C. 35%
D. 44%

11. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is:

A. Rs. 45
B. Rs. 50
C. Rs. 55
D. Rs. 60

12. When a plot is sold for Rs. 18,700, the owner loses 15%. At what price must that plot be sold in order to gain 15%?

A. Rs. 21,000
B. Rs. 22,500
C. Rs. 25,300
D. Rs. 25,800

13. 100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. The percentage of profit or loss is:

A. $14\frac{2}{7}\%$ gain
B. 15% gain
C. $14\frac{2}{7}\%$ loss
D. 15 % loss

14. A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. His total gain or loss percent is:

A. $5\frac{15}{17}\%$ loss
B. $5\frac{15}{17}\%$ gain
C. $6\frac{2}{3}\%$ gain
D. None of these

15. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

A. No profit, no loss
B. 5%

NO SUBSTITUTE TO HARDWORK

C. 8%

D. 10%

E. None of these

ANSWERS

1. B	2. B	3. B	4. B	5. C
6. A	7. C	8. C	9. C	10. D
11. D	12. C	13. A	14. B	15. B

PERCENTILE CLASSES

RATIO/PROPORTION

Practice Sheet

1. A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much amount does B have?

   A. Rs. 460 **B.** Rs. 484

   C. Rs. 550 **D.** Rs. 664

---

2. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

   A. 2 : 5 **B.** 3 : 5

   C. 4 : 5 **D.** 6 : 7

---

3. A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?

   A. Rs. 500 **B.** Rs. 1500

   C. Rs. 2000 **D.** None of these

---

4. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?

   A. 2 : 3 : 4 **B.** 6 : 7 : 8

   C. 6 : 8 : 9 **D.** None of these

---

5. In a mixture 60 litres, the ratio of milk and water 2 : 1. If the this ratio is to be 1 : 2, then the quanity of water to be further added is:

   A. 20 litres **B.** 30 litres

   C. 40 litres **D.** 60 litres

6. The ratio of the number of boys and girls in a college is 7 : 8. If the percentage increase in the number of boys and girls be 20% and 10% respectively, what will be the new ratio?

   A. 8 : 9 **B.** 17 : 18

C. 21 : 22 **D.** Cannot be determined

7. Salaries of Ravi and Sumit are in the ratio 2 : 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40 : 57. What is Sumit's salary?

A. Rs. 17,000 **B.** Rs. 20,000

C. Rs. 25,500 **D.** Rs. 38,000

8. If 0.75 : x :: 5 : 8, then x is equal to:

A. 1.12 **B.** 1.2

C. 1.25 **D.** 1.30

9. The sum of three numbers is 98. If the ratio of the first to second is 2 :3 and that of the second to the third is 5 : 8, then the second number is:

A. 20 **B.** 30

C. 48 **D.** 58

10. $\frac{1}{}$ $\frac{2}{}$ $\frac{3}{}$

If Rs. 782 be divided into three parts, proportional to 2 : 3 : 4, then the first part is:

A. Rs. 182 **B.** Rs. 190

C. Rs. 196 **D.** Rs. 204

11. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?

A. 3 : 3 : 10 **B.** 10 : 11 : 20

C. 23 : 33 : 60 **D.** Cannot be determined

12. If 40% of a number is equal to two-third of another number, what is the ratio of first number to the second number?

A. 2 : 5 **B.** 3 : 7

C. 5 : 3 **D.** 7 : 3

13. The fourth proportional to 5, 8, 15 is:

A. 18 **B.** 24

C. 19

D. 20

14. Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

A. 27

B. 33

C. 49

D. 55

15. In a bag, there are coins of 25 p, 10 p and 5 p in the ratio of 1 : 2 : 3. If there is Rs. 30 in all, how many 5 p coins are there?

A. 50

B. 100

C. 150

D. 200

ANSWERS

1. A	**2. C**	**3. C**	**4. A**	**5. D**
6. C	**7. D**	**8. B**	**9. B**	**10. D**
11. C	**12. C**	**13. B**	**14. B**	**15. C**

PERCENTILE CLASSES

CI/SI/PARTNERSHIP

Practice Sheet

1. A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is:

   A. Rs. 650
   B. Rs. 690
   C. Rs. 698
   D. Rs. 700

2. Mr. Thomas invested an amount of Rs. 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be Rs. 3508, what was the amount invested in Scheme B?

   A. Rs. 6400
   B. Rs. 6500
   C. Rs. 7200
   D. Rs. 7500
   E. None of these

3. A sum fetched a total simple interest of Rs. 4016.25 at the rate of 9 p.c.p.a. in 5 years. What is the sum?

   A. Rs. 4462.50
   B. Rs. 8032.50
   C. Rs. 8900
   D. Rs. 8925
   E. None of these

4. How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

   A. 3.5 years
   B. 4 years
   C. 4.5 years
   D. 5 years

5. Reena took a loan of Rs. 1200 with simple interest for as many years as the rate of interest. If she paid Rs. 432 as interest at the end of the loan period, what was the rate of interest?

   A. 3.6
   B. 6
   C. 18
   D. Cannot be determined
   E. None of these

6. A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?

   A. 3%
   B. 4%
   C. 5%
   D. 6%
   E. None of these

7. An automobile financier claims to be lending money at simple interest, but he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes:

A. 10%

B. 10.25%

C. 10.5%

D. None of these

8. A lent Rs. 5000 to B for 2 years and Rs. 3000 to C for 4 years on simple interest at the same rate of interest and received Rs. 2200 in all from both of them as interest. The rate of interest per annum is:

A. 5%

B. 7%

C. $7\frac{1}{8}\%$

D. 10%

9. A sum of Rs. 725 is lent in the beginning of a year at a certain rate of interest. After 8 months, a sum of Rs. 362.50 more is lent but at the rate twice the former. At the end of the year, Rs. 33.50 is earned as interest from both the loans. What was the original rate of interest?

A. 3.6%

B. 4.5%

C. 5%

D. 6%

E. None of these

10. A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:

A. Rs. 2000

B. Rs. 10,000

C. Rs. 15,000

D. Rs. 20,000

11. A sum of money amounts to Rs. 9800 after 5 years and Rs. 12005 after 8 years at the same rate of simple interest. The rate of interest per annum is:

A. 5%

B. 8%

C. 12%

D. 15%

12. What will be the ratio of simple interest earned by certain amount at the same rate of interest for 6 years and that for 9 years?

A. 1 : 3

B. 1 : 4

C. 2 : 3

D. Data inadequate

E. None of these

13. A certain amount earns simple interest of Rs. 1750 after 7 years. Had the interest been 2% more, how much more interest would it have earned?

A. Rs. 35

B. Rs. 245

C. Rs. 350

D. Cannot be determined

E. None of these

14. A person borrows Rs. 5000 for 2 years at 4% p.a. simple interest. He immediately lends it to another person at $6\frac{1}{4}$ p.a for 2 years. Find his gain in the transaction per year.

A. Rs. 112.50
B. Rs. 125
C. Rs. 150
D. Rs. 167.50

15. A bank offers 5% compound interest calculated on half-yearly basis. A customer deposits Rs. 1600 each on 1st January and 1st July of a year. At the end of the year, the amount he would have gained by way of interest is:

A. Rs. 120
B. Rs. 121
C. Rs. 122
D. Rs. 123

16. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Re. 1. The sum (in Rs.) is:

A. 625
B. 630
C. 640
D. 650

17. There is 60% increase in an amount in 6 years at simple interest. What will be the compound interest of Rs. 12,000 after 3 years at the same rate?

A. Rs. 2160
B. Rs. 3120
C. Rs. 3972
D. Rs. 6240
E. None of these

18. What is the difference between the compound interests on Rs. 5000 for $1\frac{1}{2}$ years at 4% per annum compounded yearly and half-yearly?

A. Rs. 2.04
B. Rs. 3.06
C. Rs. 4.80
D. Rs. 8.30

19. The compound interest on Rs. 30,000 at 7% per annum is Rs. 4347. The period (in years) is:

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

20. What will be the compound interest on a sum of Rs. 25,000 after 3 years at the rate of 12 p.c.p.a.?

A. Rs. 9000.30
B. Rs. 9720
C. Rs. 10123.20
D. Rs. 10483.20
E. None of these

21. At what rate of compound interest per annum will a sum of Rs. 1200 become Rs. 1348.32 in 2 years?

A. 6%
B. 6.5%
C. 7%
D. 7.5%

22. The least number of complete years in which a sum of money put out at 20% compound interest will be more than doubled is:

A. 3
B. 4
C. 5
D. 6

23. Albert invested an amount of Rs. 8000 in a fixed deposit scheme for 2 years at compound interest rate 5 p.c.p.a. How much amount will Albert get on maturity of the fixed deposit?

A. Rs. 8600
B. Rs. 8620
C. Rs. 8820
D. None of these

24. The effective annual rate of interest corresponding to a nominal rate of 6% per annum payable half-yearly is:

A. 6.06%
B. 6.07%
C. 6.08%
D. 6.09%

25. Simple interest on a certain sum of money for 3 years at 8% per annum is half the compound interest on Rs. 4000 for 2 years at 10% per annum. The sum placed on simple interest is:

A. Rs. 1550
B. Rs. 1650
C. Rs. 1750
D. Rs. 2000

26. If the simple interest on a sum of money for 2 years at 5% per annum is Rs. 50, what is the compound interest on the same at the same rate and for the same time?

A. Rs. 51.25
B. Rs. 52
C. Rs. 54.25
D. Rs. 60

27. The difference between simple interest and compound on Rs. 1200 for one year at 10% per annum reckoned half-yearly is:

A. Rs. 2.50
B. Rs. 3
C. Rs. 3.75
D. Rs. 4
E. None of these

28. The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum?

A. 8
B. 10

C. 12

D. Cannot be determined

E. None of these

29. The compound interest on a certain sum for 2 years at 10% per annum is Rs. 525. The simple interest on the same sum for double the time at half the rate percent per annum is:

A. Rs. 400

B. Rs. 500

C. Rs. 600

D. Rs. 800

30. A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is:

A. Rs. 1425

B. Rs. 1500

C. Rs. 1537.50

D. Rs. 1576

31. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants to be the working member for which, he was to receive 5% of the profits. The profit earned was Rs. 7400. Calculate the share of B in the profit.

A. Rs. 1900

B. Rs. 2660

C. Rs. 2800

D. Rs. 2840

32. A, B and C enter into a partnership in the ratio $\frac{7}{2} : \frac{4}{3} : \frac{6}{5}$. After 4 months, A increases his share 50%. If the total profit at the end of one year be Rs. 21,600, then B's share in the profit is:

A. Rs. 2100

B. Rs. 2400

C. Rs. 3600

D. Rs. 4000

33. A, B, C subscribe Rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives:

A. Rs. 8400

B. Rs. 11,900

C. Rs. 13,600

D. Rs. 14,700

34. Three partners shared the profit in a business in the ratio 5 : 7 : 8. They had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their investments?

A. 5 : 7 : 8

B. 20 : 49 : 64

C. 38 : 28 : 21

D. None of these

35. A starts business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's contribution in the capital?

A. Rs. 7500

B. Rs. 8000

C. Rs. 8500

D. Rs. 9000

36. A and B entered into partnership with capitals in the ratio 4 : 5. After 3 months, A withdrew $\frac{1}{4}$ of his capital and B withdrew $\frac{1}{5}$ of his capital. The gain at the end of 10 months was Rs. 760. A's share in this profit is:

A. Rs. 330

B. Rs. 360

C. Rs. 380

D. Rs. 430

37. A and B started a partnership business investing some amount in the ratio of 3 : 5. C joined then after six months with an amount equal to that of B. In what proportion should the profit at the end of one year be distributed among A, B and C?

A. 3 : 5 : 2

B. 3 : 5 : 5

C. 6 : 10 : 5

D. Data inadequate

38. A, B, C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs. 175, how much must C pay as his share of rent?

A. Rs. 45

B. Rs. 50

C. Rs. 55

D. Rs. 60

39. A and B started a business in partnership investing Rs. 20,000 and Rs. 15,000 respectively. After six months, C joined them with Rs. 20,000. What will be B's share in total profit of Rs. 25,000 earned at the end of 2 years from the starting of the business?

A. Rs. 7500

B. Rs. 9000

C. Rs. 9500

D. Rs. 10,000

40. A began a business with Rs. 85,000. He was joined afterwards by B with Rs. 42,500. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1?

A. 4 months

B. 5 months

C. 6 months

D. 8 months

41. Aman started a business investing Rs. 70,000. Rakhi joined him after six months with an amount of Rs.. 1,05,000 and Sagar joined them with Rs. 1.4 lakhs after another six months. The amount of profit earned should be distributed in what ratio among Aman, Rakhi and Sagar respectively, 3 years after Aman started the business?

A. 7 : 6 : 10

B. 12 : 15 : 16

C. 42 : 45 : 56

D. Cannot be determined

42. Arun, Kamal and Vinay invested Rs. 8000, Rs. 4000 and Rs. 8000 respectively in a business. Arun left after six months. If after eight months, there was a gain of Rs. 4005, then what will be the share of Kamal?

A. Rs. 890

B. Rs. 1335

C. Rs. 1602

D. Rs. 1780

---

43. Simran started a software business by investing Rs. 50,000. After six months, Nanda joined her with a capital of Rs. 80,000. After 3 years, they earned a profit of Rs. 24,500. What was Simran's share in the profit?

A. Rs. 9,423

B. Rs. 10,250

C. Rs. 12,500

D. Rs. 10,500

ANSWERS

1. C	**2. A**	**3. D**	**4. B**	**5. B**	**6. D**	**7. B**	**8. D**
9. E	**10. C**						
11. C	**12. C**	**13. D**	**14. A**	**15. B**	**16. A**	**17. C**	**18. A**
19. A	**20. C**						
21. A	**22. B**	**23. C**	**24. D**	**25. C**	**26. A**	**27. B**	**28. A**
29. B	**30. B**						
31. B	**32. D**	**33. D**	**34. B**	**35. D**	**36. A**	**37. C**	**38. A**
39. A	**40. D**						
41. B	**42. A**	**43. D**					

PERCENTILE CLASSES

TIME-DISTANCE-SPEED

Practice Sheet

1. *A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?*

   A. 3.6 **B.** 7.2

   C. 8.4 **D.** 10

---

2. *An airplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in 5/3 hours, it must travel at a speed of:*

   A. 300 kmph **B.** 360 kmph

   C. 600 kmph **D.** 720 kmph

---

3. *If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:*

   A. 50 km **B.** 56 km

   C. 70 km **D.** 80 km

---

4. *A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:*

   A. 100 kmph **B.** 110 kmph

   C. 120 kmph **D.** 130 kmph

---

5. *Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour?*

   A. 9 **B.** 10

   C. 12 **D.** 20

6. *In a flight of 600 km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced by 200 km/hr and the time of flight increased by 30 minutes. The duration of the flight is:*

   A. 1 hour **B.** 2 hours

   C. 3 hours **D.** 4 hours

---

7. *A man complete a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.*

   A. 220 km **B.** 224 km

C. 230 km

D. 234 km

8. *The ratio between the speeds of two trains is 7 : 8. If the second train runs 400 km in 4 hours, then the speed of the first train is:*

A. 70 km/hr

B. 75 km/hr

C. 84 km/hr

D. 87.5 km/hr

9. *A man on tour travels first 160 km at 64 km/hr and the next 160 km at 80 km/hr. The average speed for the first 320 km of the tour is:*

A. 35.55 km/hr

B. 36 km/hr

C. 71.11 km/hr

D. 71 km/hr

10. *A car travelling with 5/7 of its actual speed covers 42 km in 1 hr 40 min 48 sec. Find the actual speed of the car.*

A. $17\frac{6}{7}$ km/hr

B. 25 km/hr

C. 30 km/hr

D. 35 km/hr

11. *In covering a distance of 30 km, Abhay takes 2 hours more than Sameer. If Abhay doubles his speed, then he would take 1 hour less than Sameer. Abhay's speed is:*

A. 5 kmph

B. 6 kmph

C. 6.25 kmph

D. 7.5 kmph

12. *Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?*

A. 8 kmph

B. 11 kmph

C. 12 kmph

D. 14 kmph

13. *It takes eight hours for a 600 km journey, if 120 km is done by train and the rest by car. It takes 20 minutes more, if 200 km is done by train and the rest by car. The ratio of the speed of the train to that of the cars is:*

A. 2 : 3

B. 3 : 2

C. 3 : 4

D. 4 : 3

14. *A farmer travelled a distance of 61 km in 9 hours. He travelled partly on foot @ 4 km/hr and partly on bicycle @ 9 km/hr. The distance travelled on foot is:*

A. 14 km

B. 15 km

C. 16 km

D. 17 km

15. *A man covered a certain distance at some speed. Had he moved 3 kmph faster, he would have taken 40 minutes less.*

If he had moved 2 kmph slower, he would have taken 40 minutes more. The distance (in km) is:

A. 35

B. $36\frac{2}{3}$

C. $37\frac{1}{2}$

D. 40

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and
Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
Give answer(E) if the data in both Statements I and II together are necessary to answer the question.

16. *Two towns are connected by railway. Can you find the distance between them?*

    I. The speed of the mail train is 12 km/hr more than that of an express train.

    II. A mail train takes 40 minutes less than an express train to cover the distance.

17. *The towns A, B and C are on a straight line. Town C is between A and B. The distance from A to B is 100 km. How far is A from C?*

    I. The distance from A to B is 25% more than the distance from C to B.

    II. The distance from A to C is 1/4 of the distance C to B.

18. *Two cars pass each other in opposite direction. How long would they take to be 500 km apart?*

    I. The sum of their speeds is 135 km/hr.

    II. The difference of their speed is 25 km/hr.

19. *How much time did X take to reach the destination?*

    I. The ratio between the speed of X and Y is 3 : 4.

II. Y takes 36 minutes to reach the same destination.

20. *A train running at the speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train?*

A. 120 m
B. 180 m
C. 324 m
D. 150 m

---

21. *A train 125 m long passes a man, running at 5 km/hr in the same direction in which the train is going, in 10 seconds. The speed of the train is:*

A. 45 km/hr
B. 50 km/hr
C. 54 km/hr
D. 55 km/hr

---

22. *The length of the bridge, which a train 130 m long and travelling at 45 km/hr can cross in 30 seconds, is:*

A. 200 m
B. 225 m
C. 245 m
D. 250 m

---

23. *Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:*

A. 1 : 3
B. 3 : 2
C. 3 : 4
D. None of these

---

24. *A train passes a station platform in 36 seconds and a man standing on the platform in 20 seconds. If the speed of the train is 54 km/hr, what is the length of the platform?*

A. 120 m
B. 240 m
C. 300 m
D. None of these

25. *Two, trains, one from Howrah to Patna and the other from Patna to Howrah, start simultaneously. After they meet, the trains reach their destinations after 9 hours and 16 hours respectively. The ratio of their speeds is:*

A. 2 : 3
B. 4 : 3
C. 6 : 7
D. 9 : 16

26. *A train 240 m long passes a pole in 24 seconds. How long will it take to pass a platform 650 m long?*

A. 65 sec
B. 89 sec
C. 100 sec
D. 150 sec

---

27. *Two trains of equal length are running on parallel lines in the same direction at 46 km/hr and 36 km/hr. The faster train passes the slower train in 36 seconds. The length of each train is:*

A. 50 m
B. 72 m

C. 80 m

D. 82 m

28. *A train 360 m long is running at a speed of 45 km/hr. In what time will it pass a bridge 140 m long?*

A. 40 sec

B. 42 sec

C. 45 sec

D. 48 sec

29. *Two trains are moving in opposite directions @ 60 km/hr and 90 km/hr. Their lengths are 1.10 km and 0.9 km respectively. The time taken by the slower train to cross the faster train in seconds is:*

A. 36

B. 45

C. 48

D. 49

30. *A jogger running at 9 kmph alongside a railway track in 240 m ahead of the engine of a 120 m long train running at 45 kmph in the same direction. In how much time will the train pass the jogger?*

A. 3.6 sec

B. 18 sec

C. 36 sec

D. 72 sec

31. *A 270 metres long train running at the speed of 120 kmph crosses another train running in opposite direction at the speed of 80 kmph in 9 seconds. What is the length of the other train?*

A. 230 m

B. 240 m

C. 260 m

D. 320 m

E. None of these

32. *A goods train runs at the speed of 72 kmph and crosses a 250 m long platform in 26 seconds. What is the length of the goods train?*

A. 230 m

B. 240 m

C. 260 m

D. 270 m

33. *Two trains, each 100 m long, moving in opposite directions, cross each other in 8 seconds. If one is moving twice as fast the other, then the speed of the faster train is:*

A. 30 km/hr

B. 45 km/hr

C. 60 km/hr

D. 75 km/hr

34. *Two trains 140 m and 160 m long run at the speed of 60 km/hr and 40 km/hr respectively in opposite directions on parallel tracks. The time (in seconds) which they take to cross each other, is:*

A. 9

B. 9.6

C. 10

D. 10.8

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35. *A train 110 metres long is running with a speed of 60 kmph. In what time will it pass a man who is running at 6 kmph in the direction opposite to that in which the train is going?*

A. 5 sec
B. 6 sec
C. 7 sec
D. 10 sec

36. A train travelling at a speed of 75 mph enters a tunnel 7/2 miles long. The train is 1/4 mile long. How long does it take for the train to pass through the tunnel from the moment the front enters to the moment the rear emerges?

A. 2.5 min
B. 3 min
C. 3.2 min
D. 3.5 min

---

37. *A train 800 m long is running at a speed of 78 km/hr. If it crosses a tunnel in 1 minute, then the length of the tunnel (in meters) is:*

A. 130
B. 360
C. 500
D. 540

---

38. *A 300 metre long train crosses a platform in 39 seconds while it crosses a signal pole in 18 seconds. What is the length of the platform?*

A. 320 m
B. 350 m
C. 650 m
D. Data inadequate

---

39. *A train speeds past a pole in 15 seconds and a platform 100 m long in 25 seconds. Its length is:*

A. 50 m
B. 150 m
C. 200 m
D. Data inadequate

---

40. *A train moves past a telegraph post and a bridge 264 m long in 8 seconds and 20 seconds respectively. What is the speed of the train?*

A. 69.5 km/hr
B. 70 km/hr
C. 79 km/hr
D. 79.2 km/hr

41. *A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to go 68 km downstream.*

A. 2 hours
B. 3 hours
C. 4 hours
D. 5 hours

---

42. *A man's speed with the current is 15 km/hr and the speed of the current is 2.5 km/hr. The man's speed against the current is:*

A. 8.5 km/hr
B. 9 km/hr

C. 10 km/hr

D. 12.5 km/hr

---

43. *A boat running upstream takes 8 hours 48 minutes to cover a certain distance, while it takes 4 hours to cover the same distance running downstream. What is the ratio between the speed of the boat and speed of the water current respectively?*

A. 2 : 1

B. 3 : 2

C. 8 : 3

D. Cannot be determined

E. None of these

---

44. *A motorboat, whose speed in 15 km/hr in still water goes 30 km downstream and comes back in a total of 4 hours 30 minutes. The speed of the stream (in km/hr) is:*

A. 4

B. 5

C. 6

D. 10

---

45. *In one hour, a boat goes 11 km/hr along the stream and 5 km/hr against the stream. The speed of the boat in still water (in km/hr) is:*

A. 3 km/hr

B. 5 km/hr

C. 8 km/hr

D. 9 km/hr

46. *A boat running downstream covers a distance of 16 km in 2 hours while for covering the same distance upstream, it takes 4 hours. What is the speed of the boat in still water?*

A. 4 km/hr

B. 6 km/hr

C. 8 km/hr

D. Data inadequate

---

47. *The speed of a boat in still water in 15 km/hr and the rate of current is 3 km/hr. The distance travelled downstream in 12 minutes is:*

A. 1.2 km

B. 1.8 km

C. 2.4 km

D. 3.6 km

---

48. *A boat takes 90 minutes less to travel 36 miles downstream than to travel the same distance upstream. If the speed of the boat in still water is 10 mph, the speed of the stream is:*

A. 2 mph

B. 2.5 mph

C. 3 mph

D. 4 mph

---

49. *A man can row at 5 kmph in still water. If the velocity of current is 1 kmph and it takes him 1 hour to row to a place and come back, how far is the place?*

A. 2.4 km

B. 2.5 km

C. 3 km

D. 3.6 km

50. A boat covers a certain distance downstream in 1 hour, while it comes back in 3/2 hours. If the speed of the stream be 3 kmph, what is the speed of the boat in still water?

A. 12 kmph

B. 13 kmph

C. 14 kmph

D. 15 kmph

E. None of these

ANSWERS

1	***B***	***11***	***A***	***21***	***B***	***31***	***A***	***41***	***C***	***51***		***61***	
2	***D***	***12***	***C***	***22***	***C***	***32***	***D***	***42***	***C***	***52***		***62***	
3	***A***	***13***	***C***	***23***	***B***	***33***	***C***	***43***	***C***	***53***		***63***	
4	***C***	***14***	***C***	***24***	***B***	***34***	***D***	***44***	***B***	***54***		***64***	
5	***B***	***15***	***D***	***25***	***B***	***35***	***B***	***45***	***C***	***55***		***65***	
6	***A***	***16***	***D***	***26***	***B***	***36***	***B***	***46***	***B***	***56***		***66***	
7	***B***	***17***	***C***	***27***	***A***	***37***	***C***	***47***	***D***	***57***		***67***	
8	***D***	***18***	***A***	***28***	***A***	***38***	***B***	***48***	***A***	***58***		***68***	
9	***C***	***19***	***E***	***29***	***C***	***39***	***B***	***49***	***A***	***59***		***69***	
10	***D***	***20***	***D***	***30***	***C***	***40***	***D***	***50***	***D***	***60***		***70***	

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Percentile Classes

WORK-TIME

Practice Sheet

1. *A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is :*

   A. $\frac{1}{4}$

   B. $\frac{1}{10}$

   C. $\frac{7}{15}$

   D. $\frac{8}{15}$

---

2. *A can lay railway track between two given stations in 16 days and B can do the same job in 12 days. With help of C, they did the job in 4 days only. Then, C alone can do the job in:*

   A. $9\frac{1}{5}$ days

   B. $9\frac{2}{5}$ days

   C. $9\frac{3}{5}$ days

   D. 10

---

3. *A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?*

   A. 12 days

   B. 15 days

   C. 16 days

   D. 18 days

---

4. *A is thrice as good as workman as B and therefore is able to finish a job in 60 days less than B. Working together, they can do it in:*

   A. 20 days

   B. $22\frac{1}{2}$ days

   C. 25 days

   D. 30 days

---

5. *A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?*

   A. Rs. 375

   B. Rs. 400

   C. Rs. 600

   D. Rs. 800

6. *If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:*

   A. 4 days

   B. 5 days

   C. 6 days

   D. 7 days

---

7. *A can do a piece of work in 4 hours; B and C together can do it in 3 hours, while A and C together can do it in 2 hours. How long will B alone take to do it?*

   A. 8 hours

   B. 10 hours

C. 12 hours

D. 24 hours

8. *A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:*

A. 15 days

B. 20 days

C. 25 days

D. 30 days

9. *A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?*

A. 23 days

B. 37 days

C. 37.5 days

D. 40 days

10. *A machine P can print one lakh books in 8 hours, machine Q can print the same number of books in 10 hours while machine R can print them in 12 hours. All the machines are started at 9 A.M. while machine P is closed at 11 A.M. and the remaining two machines complete work. Approximately at what time will the work (to print one lakh books) be finished ?*

A. 11:30 A.M.

B. 12 noon

C. 12:30 P.M.

D. 1:00 P.M.

11. *A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work?*

A. 5

B. $5\frac{1}{2}$

C. 6

D. 8

12. *4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?*

A. 35

B. 40

C. 45

D. 50

13. *A and B can together finish a work 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the work?*

A. 40

B. 50

C. 54

D. 60

14. *P can complete a work in 12 days working 8 hours a day. Q can complete the same work in 8 days working 10 hours a day. If both P and Q work together, working 8 hours a day, in how many days can they complete the work?*

A. $5\frac{5}{11}$

B. $5\frac{6}{11}$

C. $6\frac{5}{11}$

D. $6\frac{6}{11}$

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15. *10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?*

A. 3
B. 5
C. 7
D. Cannot be determined
E. None of these

16. *X and Y can do a piece of work in 20 days and 12 days respectively. X started the work alone and then after 4 days Y joined him till the completion of the work. How long did the work last?*

A. 6 days
B. 10 days
C. 15 days
D. 20 days

---

17. *A is 30% more efficient than B. How much time will they, working together, take to complete a job which A alone could have done in 23 days?*

A. 11 days
B. 13 days
C. $20\frac{3}{17}$ days
D. None of these

---

18. *Ravi and Kumar are working on an assignment. Ravi takes 6 hours to type 32 pages on a computer, while Kumar takes 5 hours to type 40 pages. How much time will they take, working together on two different computers to type an assignment of 110 pages?*

A. 7 hours 30 minutes
B. 8 hours
C. 8 hours 15 minutes
D. 8 hours 25 minutes

---

19. *A, B and C can complete a piece of work in 24, 6 and 12 days respectively. Working together, they will complete the same work in:*

A. $\frac{1}{24}$ day
B. $\frac{7}{24}$ day
C. $3\frac{3}{7}$ days
D. 4 days

---

20. *Sakshi can do a piece of work in 20 days. Tanya is 25% more efficient than Sakshi. The number of days taken by Tanya to do the same piece of work is:*

A. 15
B. 16
C. 18
D. 25

1	***D***	***11***	***C***
2	***C***	***12***	***B***
3	***B***	***13***	***D***
4	***B***	***14***	***A***
5	***B***	***15***	***C***
6	***A***	***16***	***B***
7	***C***	***17***	***B***
8	***C***	***18***	***C***

9	***C***	***19***	***C***
10	***D***	***20***	***B***