General Knowledge Sample Paper - 15

SECTION-III : GENERAL TEST

1. The pres ent monetary system in India is managed by:
   (a) Nationalized Banks
   (b) The State Bank of India
   (c) The Central Finance Ministry
   (d) The Reserve Bank of India
2. What is a Multinational Company?
   (a) A joint venture among more than two countries.
   (b) A company set up with foreign capital.
   (c) A company having operations in many countries.
   (d) A company holding a monopoly over the sale of a certain commodity in several countries.
3. The Khil afat Movement was organized to protest against:
   (a) religious interference by the British
   (b) Russian Revolution
   (c) dismemberment of Turkey
   (d) suppression of Pathans
4. Which part of the Constitution of India has been described as the soul of the Constitution?
   (a) Fundamental Rights
   (b) Directive Princples of State Policy
   (c) Preamble
   (d) Panchayats
5. Constituent Assembly adopted the Constitution on:
   (a) 15th August, 1947
   (b) 26th November, 1949
   (c) 26th January, 1950
   (d) 30th January, 1948
6. The famous 'Gayatri Mantra' has been taken from:
   (a) Rigveda
   (b) Samaveda
   (c) Yajurveda
   (d) Atharvaveda
7. Who was the f ounder of the Rama Krishna Mission?
   (a) Sri Ramakrishna
   (b) Swami Shraddhananda
   (c) Keshab Chandra
   (d) Swami Vivekananda
8. Which water bo dy separates Andaman and Nicobar Islands?
   (a) Andaman Sea
   (b) Bay of Bengal
   (c) Ten Degree Channel
   (d) Eleventh Degree Channel
9. The neighbourhood country of India which has the smallest area is:
   (a) Sri Lanka
   (b) Bangladesh
   (c) Bhutan
   (d) Nepal
10. A common plant found in tropical rainforest is:
    (a) Pine
    (b) Eucalyptus
    (c) Orchid
    (d) Fir
11. Which of the following vitamins is necessary for clotting of blood?
    (a) K (b) C
    (c) A (d) B
12. When pressure is increased, the boiling point of water:
    (a) decreases
    (b) increases
    (c) remains the same
    (d) depends on the volume of vapour formed
13. Rainbow has: (Choose incorrect statement)
    (a) red light as its outer-most colour towards sky
    (b) red light as its inner-most colour towards earth
    (c) violet light as its inner-most colour towards earth
    (d) its curvature bent towards earth
14. A cyclist in circular motion should lean:
    (a) Forward
    (b) Backward
    (c) Sideways towards the centre
    (d) Sideway away from the centre
15. The monitor of a com puter is:
    (a) an input device
    (b) an output device
    (c) a storage device
    (d) a processing device
16. Amalgam is an alloy in which the base metal is:
    (a) Copper (b) Zinc
    (c) Aluminium (d) Mercury
17. The physical method commonly used to purify sea water is:
    (a) Evaporation
    (b) Sedimentation
    (c) Filtration
    (d) Distillation
18. Cathode rays are:
    (a) Electromagnetic waves
    (b) Radiations
    (c) Stream of α-particles
    (d) Stream of electrons
19. The term 'Let' is associated with:
    (a) Badminton (b) Chess
    (c) Hockey (d) Football
20. The oral polio vaccine was discovered by:
    (a) Alexander Flemming
    (b) Jonas Salk
    (c) Edmond Fischer
    (d) Joseph E. Murray
21. The Umiam Hydel-Project dam is located a few kilometres north of:
    (a) Guwahati (b) Shillong
    (c) Kohima (d) Imphal
22. The expenses of the Government of India are the highest on account of subsidy on:
    (a) Fertilizers (b) Oil
    (c) LPG (d) Food
23. 'Simla Pact' between India and Pakistan was signed in the year:
    (a) 1965 (b) 1971
    (c) 1972 (d) 2001
24. In which of the following states are Garo and Khasi tribes found?
    (a) Arunachal Pradesh
    (b) Nagaland
    (c) Meghalaya
    (d) Mizoram-
25. Manipur has common boundaries with the group of states of

(a) Nagaland, Assam and Mizoram
(b) Naga land, Meghalaya and Tripura
(c) Meghalaya, Mizoram and Tripura
(d) Nagal and, Mizoram and Meghalaya

Direections (Q. 26-29): Select the related word/letters/number from the given alternatives.

26. Zoology : Animals : : Virology : ?
(a) Mitochondria
(b) Virus
(c) Protozoa
(d) Bacteria

27. PLUMBER : REBMULP : : ? : LABREV
(a) VEBRAL (b) VERBLE
(c) VERBAL (d) VABREL

28. Hi : Sr : : Fg : ?
(a) Hi (b) dC
(c) Ut (d) Jk

29. 11 : 132 : : 12 : ?
(a) 130 (b) 160
(c) 156 (d) 158

Direections (Q. 30-32): Find out the odd word/letters/number/number pair from the given alternatives.

30. (a) BC (b) IF
(c) CL (d) GH

31. (a) 2714 (b) 8432
(c) 6742 (d) 7858

32. (a) 687 (b) 777
(c) 993 (d) 745

Direetions (Q. 33-35): A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

33. 12, 24, 72, 288, ?
(a) 1440 (b) 3250
(c) 3025 (d) 2025

34. FU, GT, HS, IR, ?
(a) JQ (b) KO
(c) MN (d) EF

35. OP, RS, VW, ? , GH
(a) ZA (b) AB
(c) CD (d) GE

36. Arrange the given words in the sequence in which they occur in the dictionary.
i. Premanifest
ii. Premalignant
iii. Premake
iv. Premarital
(a) ii, iii, iv, i (b) iii, ii, i, iv
(c) iv, i, ii, iii (d) i, ii, iii, iv

37. In a certain coded language, "MOBILE " is written as "OQDKNG ". How is "RANGER " written in that coded language?
(a) TCPIGT (b) TCPGIT
(c) TPCIGT (d) GTTCPT

38. ln the following question, select the missing number from the given series.

16	49	64
36	25	6
38	16	?

(a) 24 (b) 32
(c) 20 (d) 25

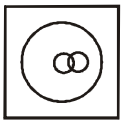
39. If "A" denotes "multiplied by", "C" denotes "subtracted from", "D" denotes "added to" and "B" denotes "divided by", then 76 C 54 D 210 B 3 A 15 = ?
(a) 1072 (b) 1050
(c) 1830 (d) 1431

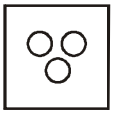
40. Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?
j_l_jk_m_kl_
(a) jkljm (b) kmjjj
(c) kmljm (d) mkjlm

41. Karan travels 20 km towards south, and then takes a left, and travels 35 km further. Again, he takes a left and travels 20 km further. How far is he from his original position?
(a) 35 km (b) 25 km
(c) 30 km (d) 40 km

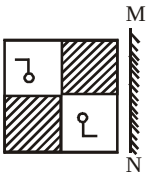
42. Introducing a boy, Amarjeet says, "He is the son of the daughter of my father." How is the boy related to Amarjeet?
(a) Nephew
(b) Maternal uncle
(c) Son
(d) Cousin

43. Identify the diagram that best represents the relationship among the given classes.
Human being, Doctors, Postgrad uates

(a)  (b) 

(c)  (d) 

44. lf a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?
Question figure:



Answer figures:

(a)  (b) 

(c)  (d) 

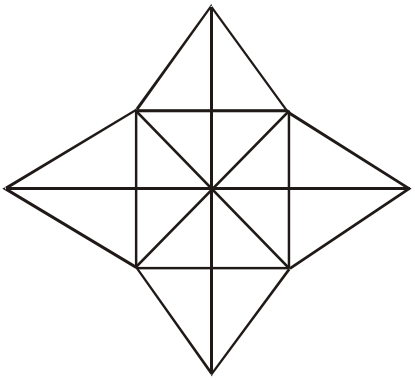
45. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when unfolded.
Question figures:

Answer figures:

(a)  (b) 

(c)  (d) 

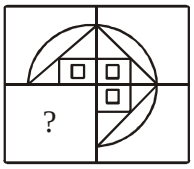
46. How many triangles are there in the given figure?



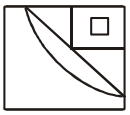
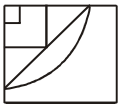
(a) 28 (b) 36
(c) 40 (d) 48

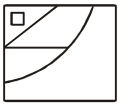
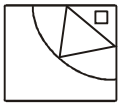
47. Which answer figure will complete the pattern in the question figure?

Question figure:



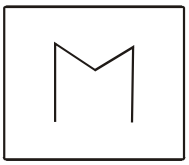
Answer figures:

(a)  (b) 

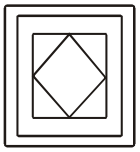
(c)  (d) 

48. From the given answer figures, select the one in which the question figure is hidden/ embedded.

Question figures:

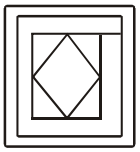


Answer figures:

(a) 

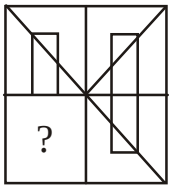
(b) 

(c) 

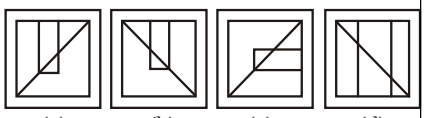
(d) 

49. Which answer figure will complete the pattern in the question figure?

Question figure:



Answer figures



(a) (b) (c) (d)

50. A word is represented by only one set of numbers as given in any one of the alte rnatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-l are numbered from 0 to 4 and that of Matrix-ll are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column; for example. 'N' can be represented by 21, 67, etc., and ' R' can be represented by 66, 57, etc. Similarly, you have to identify the set for the word 'GRIM'.

Matrix -l

	0	1	2	3	4
0	Q	R	A	N	B
1	W	I	N	H	L
2	E	N	S	G	O
3	N	Y	G	O	M
4	M	T	O	F	A

Matrix -ll

	5	6	7	8	9
5	Z	M	R	I	Q
6	X	R	N	W	A
7	C	S	Y	E	U
8	S	N	T	M	S
9	G	B	E	R	U

(a) 23, 57, 11, 88
(b) 32, 66, 58, 67
(c) 95, 02, 11, 86
(d) 23, 11, 57, 88

51. Badki can bake 45 cakes in 9 hours, Badki and Chutki together can bake 80 cakes in 10 hours. How many cakes can Chutki bake in 40 hours?
(a) 125 (b) 10
(c) 120 (d) 20

52. Of the 5 numbers, whose average is 72, the first is 1/8 times the sum of the other 4. The first number is ---.
(a) 60 (b) 26
(c) 40 (d) 80

53. If 6/7th of 8/5th of a number is 192, then 3/4th of that number is ------.

(a) 05 (b) 77
(c) 36 (d) 80

54. The value of x for which the expressions 5 x + 17 and 17 x – 5 become equal is ----------.
(a) 11/6 (b) – 11/6
(c) 6/11 (d) – 6/11

55. If a merchant offers a discount of 30% on the list price, then he makes a loss of 16%. What % profit or % loss will he make if he sells at a discount of 20% of the listed price?
(a) 14 % profit
(b) 4 % loss
(c) 26 % profit
(d) 8 % profit

56. A bank offers 15% compound interest per half year. A customer deposits ₹ 8800 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) ₹ 8315 (b) ₹ 2079
(c) ₹ 4158 (d) ₹ 1039

57. A triangular prism has 9 edges. How many vertices does it have?
(a) 8 (b) 6
(c) 12 (d) 10

58. The diagonal of a square equals the side of an equilateral triangle. If the area of the square is 12 sq cm. what is the area of the equilateral triangle?
(a) $12\sqrt{3}$ sq. cm.
(b) $6\sqrt{3}$ sq. cm.
(c) $12\sqrt{2}$ sq. cm.
(d) 24 sq. cm.

59. The ratio of the present ages of Ranjini and Shahid is 5:4. After 13 years, the ratio of their ages will be 6:5. What is Ranjini's present age?
(a) 52 (b) 65
(c) 60 (d) 32

60. If the curved surface area of a right circular cone is 10010 sq. cm. and its slant height is 91 cm, find its total surface area.
(a) 27720 sq. cm.
(b) 4620 sq. cm.
(c) 6930 sq. cm.
(d) 13860 sq. cm.

61. If $\sin 4\pi/3 = x$, then the value of x is
(a) –2 (b) $-2/\sqrt{3}$
(c) $\sqrt{3}/2$ (d) $\sqrt{2}$

62. When a number is increased by 28, it becomes 107% of itself. What is the number?
(a) 336 (b) 420
(c) 400 (d) 252

63. Refer to the below data table and answer the following question:

	Boys	Girls
Medical	40	75
Engineering	100	25

Find the percentage of girls in Engineering field.
(a) 20 (b) 10.42
(c) 50 (d) 25

64. Five-ninth of 80% of a number is equal to 2790. What is the number?
(a) 6278 (b) 6450
(c) 8275 (d) 8090

65. Three-fifth of a number is 35 more than forty percent of that number. What is 60% of that number?
(a) 87 (b) 105
(c) 125 (d) 150

66. What is the height of an equilateral triangle having side 'a' ?
(a) $\frac{\sqrt{3}}{2}a$ (b) $\sqrt{3}a$
(c) $\frac{\sqrt{2}}{3}a$ (d) $\frac{a}{2}$

67. The average age of 24 students in a class is 10 years. If the teacher's age is included, then average age is increased by 1. What is the age of teacher in years?
(a) 35 (b) 36
(c) 34 (d) 32

68. A 125 meter long rope is cut into a number of pieces having length of $2\frac{1}{2}$ m each. Then the rope will have to be cut into how many pieces?
(a) 20 (b) $22\frac{1}{2}$
(c) 50 (d) $45\frac{2}{3}$

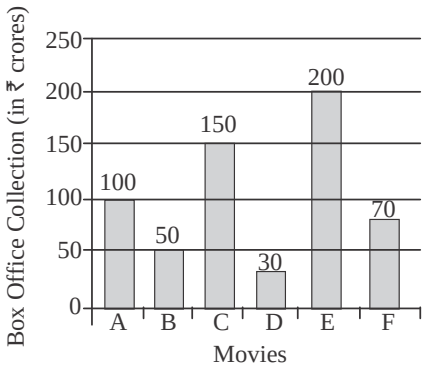
69. 4.48 is equal to
(a) $3\frac{12}{15}$
(b) $4\frac{11}{25}$
(c) $2\frac{12}{25}$
(d) $4\frac{12}{25}$

70. Find the area of a regular hexagon in sq. cm. whose side measures 16cm.
(a) 345 (b) 486
(c) $468\sqrt{3}$ (d) $384\sqrt{3}$

71. Shyam purchased a wooden bed with 30% discount on the labelled price and sold it with 40% profit on the labelled price. What was his percentage profit on the price he bought?
(a) 40
(b) 50
(c) 100
(d) 105

72. $7\frac{3}{4} + 5\frac{1}{4} + 8\frac{1}{2} =$ .....?
(a) $19\frac{2}{3}$
(b) $21\frac{1}{2}$
(c) 25
(d) $22\frac{3}{4}$

Directions (Q. 73-75): The bar graph show box offce collection (in ₹crores) of 6 movies (A, B, C, D, E, F). Study the diagram and answer the following questions.



73. Which movie grossed the second highest box office collections?
(a) E (b) C
(c) B (d) D

74. By what percentage the collections of movie D were lower than that of movie B?
(a) 66.7% (b) 40%
(c) 20% (d) 60%

75. Collection of movie C is equal to the combined collections of which movies?
(a) F, A and D (b) B, D and F
(c) B and D (d) A, B and F

SECTION-III : GENERAL TEST

1. (d) The Reserve Bank of India announces the Monetary Policy for every financial year and presents periodic review of the same from time to time.

2. (c) A Multinational Company is a company having operations in many countries and having production or service facilities outside the country of its origin.

3. (c) In support of the Khilafat movement Gandiji inaugurated the Non-Cooperation campaign on August 1, 1920.

4. (c) Preamble to the Constitution is soul of the Constitution.

5. (b) Constituent Assembly adopted the Constitution on November 26, 1949. From this date the provisions relating to citizenship, elections, provisional parliament, temporary and transitional provisions were given immediate effect.

6. (a) The famous 'Gayatri Mantra' has been taken from Rig Veda. Rig Veda consists of 1017 hymns and is divided into 10 mandals.

7. (d) Swami Vivekananda founded the Ramakrishna Mission in Belur in 1897.

8. (c) Andaman and Nicobar Islands are separated by Ten Degree Channel.

9. (c)

Country		Area
Sri Lanka	:	65,610 sq. km
Bangladesh	:	144, 000 sq. km
Bhutan	:	47,00 sq. km
Nepal	:	140,800 sq. km

10. (c) Orchid, mahogany rosewood, cinchona etc. are found in Tropical Rainforest.

11. (a) Vitamin K is necessary for clotting of blood. It was discovered by Dam and Doisy of United States in 1935.

12. (b) When pressure is increased, the boiling point of water increases. At 16 bar, the boiling point of water is 200°C.

13. (b) Red colour appears on the upper side of a rainbow and violet colour on the lower side.

14. (c) A cyclist in circular motion should lean sideways towards the centre.

15. (b) A monitor is first and foremost an output device because it displays information already held in the computer.

16. (d) Mercury forms an amalgam (alloy) with various metals.

17. (d) Distillation is commonly used to purify sea water.

18. (d) Cathode rays are stream or beam of electrons.

19. (a) Badminton: Angled Drive Serve, Bird, Deuce, Fault, Forehand Smash, Let, Lob, Love, Net Shots, Smash.

20. (b) Jonas Salk discovered the oral polio vaccine.

21. (b) Umiam Hydel: Project is located 14 km from Shillong, Meghalaya.

22. (d) Food

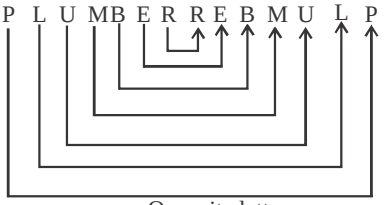
23. (c) 'Simla Pact' between India and Pakistan was signed on July 2, 1972.

24. (c) Garo and Khasi tribes are found in Meghalaya.

25. (a) Manipur has common boundaries with Nagaland,Mizoram and Assam.

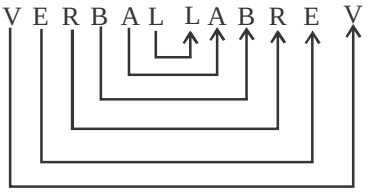
26. (b) As animals are related to zoology, similarly virus will be related to virology.

27. (a) As



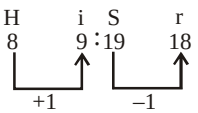
Opposite letters

Similarly,

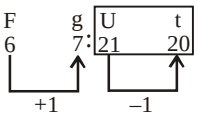


Opposite letters

28. (c) As



Similarly,



Finally, the missing term is Ut.

29. (c) As,

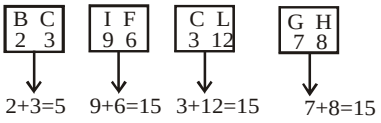
$11 \rightarrow 132 \rightarrow 11 \times 11 + 11$

Similarly,

$12 \rightarrow$ d $\boxed{156}$ $12 \times 12 + 12$

Finally, the missing number is 156.

30. (a)



∴ The odd letter pair is BC.

31. (d)

$2714 \rightarrow 2 \times 7 = 14$

$8432 \rightarrow 8 \times 4 = 32$

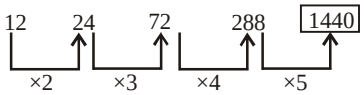
$6742 \rightarrow 6 \times 7 = 42$

$7858 \rightarrow 7 \times 8 =$ $\boxed{56}$ 58

So, the odd number is 7858.

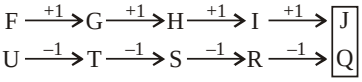
32. (d) 687, 777 and 993 are divisible by 3, and 745 is not divisible by 3. So, 745 is the odd number.

33. (a)



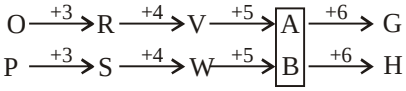
The missing term is 1440.

34. (a) The series is:



Finally, the missing term is JQ.

35. (b) The series is:

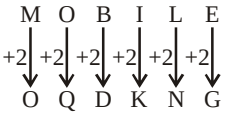


Finally the missing term is AB.

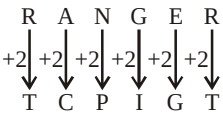
36. (b) According to the dictionary, the arrangement of words is as follows:

(iii) Premake, (ii) Premalignant, (i) Premanifest, (iv) Prema rgal.

37. (a) As



Similarly,



Finally, RANGER is written as TCPIGT.

38. (c) As

16 + 36 + 38 = 90

and

$\Rightarrow$ 49 + 25 + 16 = 90

Similarly,

$\therefore$ $\Rightarrow$ 64 + 6 + ? = 90

$\Rightarrow$ 70 + ? = 90

$\Rightarrow$? = (90 – 70) = 20

Finally, the missing number is 20.

39. (a) Given expression:

76 C 54 D 210 B 3 A 15

After changing the signs:

= 76 – 54 + 210 ÷ 3 × 15

= 76 – 54 + 70 × 15

= 76 – 54 + 1050

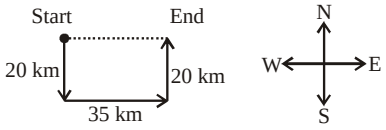
= 1126 – 105 0 = 1072

40. (c) The series is:

j k l m / jk l /m/ j k l m

$\therefore$ The set of letters 'kmljm' completes the series.

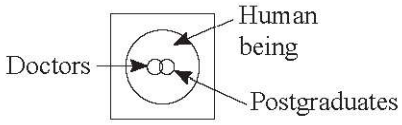
41. (a)



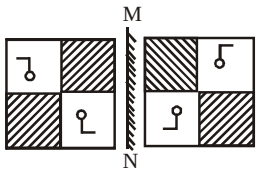
Finally, Karan is 35 km away from his original position.

42. (a) According to the statement of Amarjeet, the boy is the nephew of Amarjeet.

43. (b) Doctors are human beings and postgraduates also. So, the diagram that represents the given relationship is as follows:



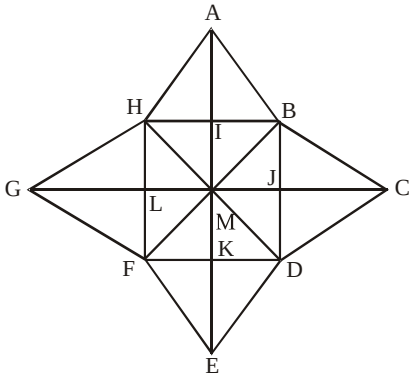
44. (c)



Finally, the right mirror image of the given image is

45. (b) A piece of paper is folded and punched. When unfolded, it will appear as given below:

46. (b)



The triangles are as given below:

ΔAIH; ΔAIB; ΔAHB; ΔCJB; ΔCJD; ΔCBD; ΔEKD; ΔEKF; ΔEDF; ΔGLF; ΔGLH; ΔGFH; ΔHLM; ΔIMH; ΔBIM; ΔBJM; ΔDKM; ΔDJM; ΔFKM; ΔFLM; ΔMBH; ΔMBD; ΔMFD; ΔMFH; ΔHFD; ΔHBD; ΔBHF; ΔBDF; ΔHGM; ΔHMA; ΔBMC; ΔBAM; ΔDCM; ΔDME; ΔFEM; ΔFMG;

Thus, there are 36 triangles.

47. (a) Answer figure (a) will complete the pattern of the question figure.

48. (c)

49. (a) Answer figure (a) will complete the pattern of the given question figure.

50. (a)

G = (23), 32, 95

R = 01, (57), 66, 98

I = (11), 58

M = 34,40, 56, (88)

Finally, we get the set of words GRIM as 23, 57, 11, 88.

51. (c) Number of cases Badki can bake in l hours = $\frac{45}{9}$ = 5

Number of cases Badki and Chutki can bake in 1 hours

$= \frac{80}{10} = 8$

Number of cases Chutki can bake in1 hour = 8 – 5 = 3

Number of cases Chutki can bake in 40 hours = 3 × 40 = 120 cakes

52. (c) Total sum of 5 numbers

= 5 × 72 = 360

Let the first number be x.

Sum of 4 numbers = 360 – x

According of the question:

$\Rightarrow \quad x = \frac{1}{8}(360 - x)$

$\Rightarrow \quad 9x = 360$

$\Rightarrow \quad x = 40$

Hence, the first number is 40.

53. (a) Let the number be x

Then,

$\Rightarrow \quad \frac{x \times 6}{7} \times \frac{8}{5} = 192$

$x = \frac{192 \times 35}{6 \times 8} = \frac{24}{6} \times 35 = 140$

$\frac{3}{4}$ of $x = \frac{3}{4} \times 140 = 3 \times 35 =$ 105

54. (a) According to the question:

$5x + 17 = 17x - 5$

$17x - 5x = 17 + 5$

$12x = 2\ 2$

$x = \frac{22}{12} = \frac{11}{6}$

55. (b) Let the marked price be x.

$S.P. = x\left(\frac{100 - 30}{100}\right) = \frac{70x}{100}$

We know that

$\Rightarrow$ C.P. – Loss = S.P.

$\Rightarrow$ Loss = C.P. $\times \frac{16}{100}$

$\Rightarrow$ C.P .– C.P. $\times \frac{16}{100}$ = S.P.

$\Rightarrow$ C.P. $\times \frac{84}{100} = \frac{70x}{100}$

C.P. = $\frac{70x}{100} \times \frac{100}{84} = ₹ \frac{5}{6}x$

New C.P. = $\frac{(100-20)}{100}x$

$= \frac{80x}{100} = ₹ \frac{4}{5}x$

Loss = (S.P. – C.P.) = $\left(\frac{5}{6}x - \frac{4x}{5}\right)$

$= \frac{(25x-24x)}{30} = ₹ \frac{x}{30}$

Loss % = $\frac{\frac{x}{30}\times 100}{\frac{5}{6}x} = \frac{x\times 6\times 100}{30\times 5\times x}$

$= \frac{100}{25} = 4\%$

56. (c)

$A = 8800\left(1+\frac{15}{100}\right)^2 + \frac{8800\times 30\times 1}{100\times 2}$

$= 8800\left(\frac{23}{20}\right)^2 + 88 \times 15$

$= 8800 \times \frac{529}{400} + 1320$

$= 22 \times 529 + 1320$

$= 11638 + 1320 = ₹\ 12958$

Interest earned = 12958 – 8800

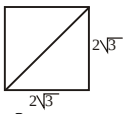
= ₹ 4158

57. (b) There are six vertices at the top the and bottom.

58. (b) Side of square = $\sqrt{12} = 2\sqrt{3}$

Then,

$\left(2\sqrt{3}\right)^2 + \left(2\sqrt{3}\right)^2 = d^2$



$\Rightarrow$ $12 + 12 = d^2$

$\Rightarrow$ $d^2 = 24$

$\therefore$ $d = 2\sqrt{6}$

Side of equilateral triangle is equal to diagonal (d)

Area of equilateral triangle:

$= \frac{\sqrt{3}}{4} \times \left(2\sqrt{6}\right)^2$

$= \frac{\sqrt{3}}{4} \times 24 = 6\sqrt{3}$ sq. cm.

59. (b) Let present ages of Ranjini and Shahid be 5x and 4x.

According to the question:

$\Rightarrow$ $\frac{5x+13}{4x+13} = \frac{6}{5}$

$\Rightarrow$ $25x + 65 = 24x + 78$

$\therefore$ $x = (78 – 65) = 13$

Present age of Ranjini = 5 × 13

= 65 years

60. (d) Curved surface area (C.S.A)

= πrl

$\Rightarrow$ $10010 = \frac{22}{7} \times r \times 91 = 22r \times 13$

$\therefore$ $r = \frac{10010}{22\times 13} = \frac{5005}{11\times 13} = \frac{455}{13} = 35$

Total suface area = $\pi rl + \pi r^2$

$= 10010 + \frac{22}{7} \times 35 \times 35$

$= 10010 + 110 \times 35$

$= 10010 + 3850$

$= 13860$ sq. cm

61. (c) $x = \sin\left(\frac{-4\pi}{3}\right)$

$= -\sin\left(\frac{4\pi}{3}\right) = -\sin\left(\pi + \frac{\pi}{3}\right)$

$= \sin\frac{\pi}{3} = \sin 60^o = \frac{\sqrt{3}}{2}$

62. (c) Let the number be x

Thus, according to the question:

$\Rightarrow$ $x + 28 = \frac{107}{100}x$

$\Rightarrow$ $\frac{107}{100}x - x = 28$

$\Rightarrow$ $\frac{107x-100x}{100} = 28$

$\Rightarrow$ $7x = 28 \times 100$

$\therefore$ $x = \frac{28\times 100}{7} = 400$

63. (a) Total number of students

= (25 + 100) = 125

Number of girls in engineering = 25

% of girls in engineering = $\frac{25\times 100}{125}$

= 20%

64. (a) Let the number be x

Then, $\frac{5}{9} \times \frac{80 \times x}{100} = 2790$

$\Rightarrow$ $x = 2790 \times \frac{9}{5} \times \frac{10}{8}$

$= 6277.5 \cong 6278$

65. (b) Let the number be x.

Then, $\frac{3}{5} \times x = \frac{40}{100} \times x + 35$

$\Rightarrow$ $\frac{3x}{5} - \frac{2x}{5} = 35$

$\Rightarrow$ $\frac{x}{5} = 35$

$\therefore$ $x = 175$

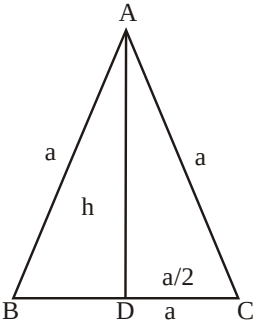
Hence, 60% of 175 = $175 \times \frac{60}{100}$

= 105

66. (a) Let height of an equilateral triangle be h.

Now, $h = \sqrt{a^2 - \left(\frac{a}{2}\right)^2}$

$= \sqrt{a^2 - \frac{a^2}{4}} = \frac{\sqrt{3}}{2}a$



67. (a) Total age of 24 students

= 24 × 10 = 240

Including the age of teacher, total age (teacher + students) = 25 × 11 = 275

Age of teacher = 275 – 240 = 35 years

68. (c) Required number of pieces

$$= \frac{125}{2.5} = 50$$

69. (d) The given number can be written as $4.48 = \frac{448}{100}$

$$= 4\frac{12}{25}$$

70. (d) Area of regular hexagon

$$= \frac{3\sqrt{3}}{2}(\text{side})^2$$

$$= \frac{3\sqrt{3}}{2} \times (16)^2$$

$$= 384\sqrt{3}$$

71. (c) Let labelled price be ₹100

Then cost price of a wooden bed =

$$100 \times \frac{(100-30)}{100} = ₹\ 70$$

And selling price of a wooden bed =

$$₹\ \frac{100 \times 140}{100} = ₹\ 140$$

Hence, required percentage profit of a wooden bed:

$$= \frac{\text{S.P.–C.P.}}{\text{C.P.}} \times 100$$

$$= \frac{140-70}{70} \times 100 = 100\%$$

72. (b) $7\frac{3}{4} + 5\frac{1}{4} + 8\frac{1}{2}$

$$= (7 + 5 + 8) + \left(\frac{3}{4} + \frac{1}{4} + \frac{1}{2}\right)$$

$$= 20 + 1\frac{1}{2} = 21\frac{1}{2}$$

73. (b) The second highest grossing movie = C

74. (b) Required percentage

$$= \frac{50-30}{50} \times 100 = 40\%$$

75. (b) Collection of Movie C = 150

Total collection of Movies B, D and F = 50 + 30 + 70 = 150

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