## **General Knowledge Sample Paper - 10**

## SECTION-III : GENERAL TEST

1. Who bui lt the Buddhist monuments at Sanchi? (a) Mughal dynasty (b) Maurya dynasty (c) Gupta dynasty (d) Chola dynasty 2. Which of the following is a function primary of haemoglobin? (a) Utilisation of energy (b) Prevention of anaemia (c) Destruction of bacteria (d) To transport oxygen 3. Sauria lacertidae is the scientific name of (a) crocodile (b) hippopotamus (c) lizard (d) house fly 4. In Chemistry, soap is a salt of (a) fatty acid (b) glycol (c) phosphorus (d) ammonium carbonate 5. Which of these is not an **Operating System?** (a) Android (b) iOS (d) Symbian (c) HTML 6. Chapchar Kut is a festival of which State? (a) Manipur (b) Nagaland (c) Mizoram (d) Meghalaya 7. Who built the Taj Mahal? (b) Shah Jahan (a) Humayun (d) Jahangir (c) Babar 8. In which stage of the business cycle the inventory stock will be the highest? (a) Boom (b) Depression (c) Recession (d) Recovery 9. Which of the following is a Direct tax? (a) Excise duty (b) Customs duty (c) Service tax (d) Wealth tax

- 10. The boundary line between India and Pakistan is called (a) McMahon line (b) Maginot line (c) Radcliffe line (d) Sir Creek 11. Which city is located on the banks of the river Mahanadi? (a) Bengaluru (b) Cuttack (c) Badrinath (d) Kota 12. When was the battle of Haldighati fought? (a) 1776 (b) 1676 (c) 1576 (d) 1476 13. A larger force on a rotating body results in larger (a) mass (b) torque (c) axis of rotation (d) centre of mass 14. What is the unit of the physical quantity, magnetic flux density? (a) Siemens (b) Weber (c) Henry (d) Tesla 15. Article-24 of the Indian Constitution 'Prohibition of employ ment of children in factories, etc. deals with (a) fundamental rights of the Indian Citizen (b) Union government (c) State government (d) Directive principles of State policy 16. Who is the author of 'Can Love Happen Twice'? (a) Keshav Aneel (b) Ravinder Singh (c) Sudeep Nagarkar (d) Aravind Adiga 17. ..... publishes Economic Survey in India. (a) Government of India (b) Ministry of Finance (c) NITI Aayog (d) Prime Minister of India
- most important political institution in a democratic country? (a) President (b) Parliament (c) Prime Minister (d) Cabinet Ministers 19. Emergency provisions in the Indian Constitution have been taken from the (a) British Constitution (b) Government of India Act, 1935 (c) Irish Constitution (d) Japanese Constitution 20. For how much time can Financial Emergency be proclaimed? (a) 6 months (b) 12 months (c) 24 months (d) No maximum period 21. In whose reign did Hiuen-Tsang visit India? (a) Jalaudddin (b) Harshavardhana (c) Jahangir (d) Pandayas 22. Which of the following planets is farthest from the Sun? (a) Saturn (b) Jupiter (c) Neptune (d) Uranus 23. Twiddle is associated with (a) Table Tennis (b) Lawn Tennis (c) Golf (d) Swimming 24. Tartaric acid is not found in (a) Tamarind (b) Grapes (c) Unripe mangoes (d) Spinach 25. What is the chemical name of quick lime? (a) Calcium carbonate (b) Sodium hydroxide (c) Calcium oxide (d) Calcium sulphate

18. Who among the following is the

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

26. Nest : Bird : : Den : ? (a) Owl (b) Lion (c) Rat (d) Goat 27. NPR : GHI : : TVX : ? (a) JKL (b) KLM (c) IJK (d) IKL 28. AF : BE : : ? : DH (a) CH (b) CG (c) DG (d) CI 29. 36 : 6 : : 441 : ? (b) 21 (a) 11 (c) 25 (d) 32 Directions (Q. 30-33): Choose the odd word/letters/number pair from the given alternatives. 30. (a) Violet (b) Blue (c) Indigo (d) White 31. (a) MPS (b) WZC (c) FHJ (d) ADG (b) 841 32. (a) 512 (d) 289 (c) 576 (b) 792 33. (a) 165 (c) 852 (d) 671 Directions (Q. 34-37): A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. 34. DP, EY, FJ, ? (a) GX (b) GS (d) GW (c) GT 35. DAF, FED, HIB, ? (a) JMZ (b) JOY (c) LUX (d) JOZ 36. 1, 7, 42, 210, 840, ? (b) 2640 (a) 1240 (c) 1680 (d) 2520 37. C has more money than E and E has more money than B. C is the second richest after A. Who has the least money out of A, B, C and E?

(c) B (d) E38. Arra nge the given words in the sequence in which they occur in

(a) C

the dictionary.	
i. Monopoly	ii. Manifesto
iii. Manifold	iv. Mankind.
(a) ii, iii, iv, i	(b) iii, ii, iv, i
(a) i iii iy ii	(d) i iv iii ii

(b) A

(c) i, iii, iv, ii (d) i, iv, iii, ii

- 39. In a certain coded language, "HISTORY" is written as "XQNSRHI". How is "ETHICS" written in that coded language?
  (a) DSGHBR (b) RBHGSF
  (c) RBHDSG (d) GSDRBH
- 40. In the following question, select the missing number from the given series.





(a) 9

- (c) 6 (d) 7
  41. If "S" denotes "multiplied by", "V" denotes "subracted from", "M" denotes "added to" and "L" denotes "divided by", then 96 L 8 S 4 V 16 M 9 =?
  (a) 32 (b) 37
  - (c) 41 (d) 48
- 42. In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
  c\_e\_cd\_f\_d\_f
  (a) dfcec
  (b) dfece

(u)	urece	(0)	uncee
(c)	cfede	(d)	cdfed

43. A boy and a girl are facing each other. If the boy is standing at the north-west direction of the girl, in which direction is the girl to the boy?

(a) North	(b) South
(c) East	(d) South-east
44. Aryan has a b	prother named
Bishnu. Aryan	is the son of
Chetan. Dev is	Chetan's father.
In terms of rela	tionship, what is
Bishnu to Dev?	?
(a) Grandson	(b) Father
(c) Brother	(d) Cousin

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





46. Identify the diagram that best represents the relationship among the given classes.
 Food Supplement, Bournvita, Horlicks.



47. 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 opened. Question figure:



Answer figures:



48. In the following figure, square represents Therapists, triangle represents Geneticists, circle represents Yoga Practitioners and rectangle represents Fathers. Which set of letters represents Yoga Practitioners who are neither Geneticists nor Fathers?



(c) G, C(d) F, G49. Which answer figure will complete the pattern in the question figure? Ouestion figure:



Answer figures:



50. A word is represented by only one set of numbers as given in any one of the alternatives. 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-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter

> from these matrices can be represented first by its row and next by its columns for example, 'R' can be represented by 12, 23, etc. and 'G' can be represented by 77, 88 etc. Similarly, you have to identify the set for the word 'FRIEND'.

	Matrix-I				Matrix-II								
		0	1	2	3	4			5	6	7	8	9
	0	L	R	s	Т	Т		5	G	Ν	Ι	Р	Q
	1	Е	L	R	s	Т		6	F	G	Ν	Ι	Р
	2	D	Е	L	R	S		7	С	F	G	Ν	Ι
	3	0	D	Е	L	R		8	М	С	F	G	Ι
	4	Q	0	D	Е	L		9	М	М	С	F	Ν
(a) 76, 23, 85, 21, 78, 20 (b) 87, 23, 79, 21, 78, 20 (c) 87, 12, 68, 21, 99, 33													
	(d) 98, 23, 68, 96, 78, 20												
51.	51. If cosec $135^\circ = x$ , then the value												

of x is :

(a) 
$$\sqrt{2}$$
 (b) 2

(c) 
$$-\sqrt{2}$$

52. A cone is hollowed out of a solid wooden cube of side 7 cm. The diameter and height of the cone are same as the side of the cube. What is the volume of the remaining cube?

(d)  $1/\sqrt{3}$ 

- (a) 253.17 cubic cms
- (b) 228.84 cubic cms
- (c) 143.26 cubic cms
- (d) 257.68 cubic cms
- 53. Of the 3 numbers whose average is 72, the first is 2/7 times the sum of the other two. The first number is :
  - (a) 48 (b) 72
  - (c) 32 (d) 96
- 54. Expand and simplify  $(x + 5)^2 + (x 3)^2$ : (a)  $2(x^2 + 2x - 17)$ 
  - (b)  $2(x^2 2x + 17)$
  - (c)  $2(x^2 2x 17)$
  - (d)  $2(x^2 + 2x + 17)$
- 55. The simplest form of 3565/1495 is :
  - (a) 31/13
  - (b) 43/19
  - (c) 23/13
  - (d) 31/23
- 56. When a number is increased by 42, it becomes 121% of itself. What is the number?(a) 504
  - (b) 200
  - (c) 630
  - (d) 378
- 57. Rizvan walks at 15 km/hr and Ruchitha cycles at 20 km/hr towards each other. What was the distance between them when they started if they meet after 42 minutes?

(a) 36.8 kms (b) 30.6 kms (c) 24.5 kms (d) 18.4 kms

- 58. The third proportional of two
  - numbers 7 and 21 is : (a) 35 (b) 63
  - $\begin{array}{c} (a) \ 55 \\ (c) \ 42 \\ (d) \ 21 \end{array}$

59. 30% discount is offered on an item. By applying a promo code, the customer wins 5% cashback. What is the effective discount?
(a) 33.5%
(b) 35.175%
(c) 35%
(d) 6.5%

- 60. A sum fetched a total simple interest of ₹7056 at the rate of 8% per year in 7 years. What is the sum?
  - (a) ₹ 12600 (b) ₹ 15120

(c) ₹ 10080 (d) ₹ 7560

- 61. A mason can build a wall in 18 hours. After 9 hours, he takes a break. What fraction of the wall is yet to be built?
  - (a) 0.9 (b) 0.25
  - (c) 0.5 (d) 0.2
- 62. A shopkeeper by selling 8 iPhones earns a profit equal to the selling price of 3 iPhones. His profit per centage is :
  - (a) 60% (b) 37.5%
  - (c) 75% (d) 15%
- 63. An angle is greater than its complementary angle by 40°. Find the measure of the angle?
  - (a)  $25^{\circ}$  (b)  $65^{\circ}$
  - (c)  $130^{\circ}$  (d)  $50^{\circ}$
- 64. In a rhombus:
  - (a) opposite angles are supplementary
  - (b) diagonals form two congruent triangles
  - (c) diagonals are congruent
  - (d) diagonals do not bisect opposite angles
- 65. The sum of thrice a number and twice its reciprocal is 97/4. What is the number?
  - (a) 9 (b) 10
  - (c) 8 (d) 7
- 66. What will be the quotient when 2143 is divided by 38?

(a) 56	(b) 55
(c) 57	(d) 54

67. A and B together can do a job in 15 days and A alone can do the same job in 20 days. How many days would B take to do half the job if he worked alone?

(a) 60	(b) 30
(c) 45	(d) 40

- 68. What is the area (in sq. cm.) of a rectangle if its diagonal is 51 cm and one of its sides is 24 cm?
  - (a) 540
  - (b) 810
  - (c) 1080
  - (d) 360
- 69. A shopkeeper marks up his wares by 60% and offers 10% discount. What will be the selling price (in ₹) if the cost price is ₹ 7500?
  - (a) 11800
  - (b) 12800
  - (c) 13800
  - (d) 10800
- 70. What number should be added to each of the numbers 94, 24, 100 and 26, so that the resulting numbers are in continued proportion?
  - (a) 10 (b) 11 (c) 9 (d) 8
- 71. A batsman scores 81 runs in the 16th match and thus, increases his average runs per match by 3. What is his average after the 16th match?

(a) 35	(b) 34
(c) 33	(d) 36
72. A vendor buys	s 12 bananas for
₹ 60 and sells	5 bananas for $₹$ 32.
What will be h	is gain (in %)?
(a) 28	(b) 32
(c) 24	(d) 22
Directions (Q. 73-	75): The pie-chart
shows the annual o	car production (in
millions) of six co	untries (A, B, C, D,
$\mathbf{F} = \mathbf{F} \cdot \mathbf{O} \cdot 1 \cdot 1$	1. 1

E, F). Study the diagrams and answer the following questions.



74. Country E produced how many more cars (in %) than that of country B?

(a)	10	(b)	12.5
(c)	11.11	(d)	8

75. If 35% of the cars produced by these six countries are diesel and the rest are petrol, then the how many petrol cars were produced (in millions)?

(a) 1.755	(b) 0.945
(c) 2.7	(d) 1.8

Answers with Explanations

## SECTION-III: GENERAL TEST

1. (b) The 'Great Stupa' at Sanchi is the oldest structure and was originally commissioned by the emperor Ashoka

the Great in the 3rd century BCE. Ashoka belonged to the Mauryan Empire and most of the Buddhist monuments were build during this period only.

2. (d) The major function of haemoglobin is to transport oxygen from the lungs to the body's tissues and then transport carbon dioxide out of the tissue back to the lungs.

3. (c)	
Scientific Name	Animal
Sauria lacertidae	Lizard
Crocodylus niloticus	Crocodile
Hippopotamus	Hippopotamus
amphibious	
Musca domestica	House fly

4. (a) Soap is produced by a saponification or basic hydrolysis reaction of fat or oil. Currently, sodium carbonate or sodium hydroxide is used to neutralise the fatty acid and convert it to the salt.

5. (c) Operating System is the lowlevel software that supports a computer's basic functions, such as scheduling tasks and controlling peripherals. Hypertext Markup Language (HTML), a standardised system for tagging text files to achieve font, colour, graphic, and hyperlink effects on World Wide Web pages. All others are operating systems.

6. (c) The Chapchar Kut is a festival of Mizoram, India. It is celebrated during March after completion of their most arduous task of Jhum operation i.e., jungle-clearing (clearing of the remnants of burning). It is a spring festival celebrated with great fervor and gaiety.

7. (b)

8. (b) In Economics, a depression is a sustained, long-term downturn in economic activity in one or more economies. The value of money depreciates in this phase which leads to increase in Inventory stock.

9. (d) A tax, such as income tax, which is levied on the income or profits of the person who pays it, rather than on goods or services is called as direct tax. Key examples of direct taxes are Income tax, Wealth tax, Corporation tax

10. (c) The Radcliffe Line was published on August 17, 1947 as a boundary demarcation line between India and Pakistan upon the Partition of India. It was named after its architect, Sir Cyril Radcliffe, who as chairman of the Border Commissions. McMahon line is between India and China. Sir Creek is a 96 km tidal estuary on the border of India and Pakistan. The Creek, which opens up into the Arabian Sea, divides the Gujarat State of India from the Sindh province of Pakistan. The Maginot Line named after the French Minister of War Andre Maginot, was a line of concrete fortifications, obstacles, and weapon installations built by France in the 1930s to deter invasion by Germany. Constructed on the Fench side of its borders with Switzerland, Germany, and Luxembourg.

11. (b) City	River
Bengaluru	Vrishabhavathi
Cuttack	Mahanadi
Badrinath	Alaknanda
Kota	Chambal
12. (c) The Battle	of Haldighati was
fought in Haldighati,	Rajasthan on June
18 or 21, 1576 for are	ound four hours
between Rana of Mey	war, Maharana
Pratap and Mughal E	mperor Akbar's
forces led by Man Sin	ngh I.
13. (b)	
14. (d)	
Physical Quantity	Unit
Electyrical	Siemens
Conductance	
Magnetic flux	Weber

Inductance Magnetic flux density

Weber Henry Tesla

15. (a) Article-24 mandates that no child below age of 14 years shall be employed to work any factory or mine or engaged in any other hazardous employment. Article-(12-35) deals with the fundamental rights of the citizen of India.

16. (b)

17. (b) The Department of Economic Affairs in the Finance Ministry of India publishes and presents the Economic Survey in the Parliament every year, just before the Union Budget. It is prepared under the guidance of the Chief Economic Adviser to Finance Ministry. It is the ministry's view on the annual economic development of the country.

18. (c) The Prime Minister is the most important political institution in any democratic country. The Prime Minister is the leader of the country who represents the entire population of the country. Controlling the other economic variables, the main findings indicate that the political institutions fundamentally matter only for incipient democracies, and not for consolidated democracies. Political institutions demonstrate that consolidated democracies and political institutions are substituted for determining economic growth

19. (b) Many call the Indian Constitution a copy-paste work and a glaringexample of plagiarism. Most parts of it have been copied from the Government of India Act, 1935. The emergency provision in the Constitution of India was borrowed from the Government of India Act, 1935. Some other provisions which are taken from this Act are Federal Scheme (also from the Constitution of Canada), Office of Governor, Judiciary and Public Service Commission.

20. (d) Provisions as to Financial Emergency says that it shall cease to operate at the expiration of two months unless before the expiration of that period it has been approved by resolutions of both the Houses of Parliament, provided that if any such proclamation is issued at a time when the House of the People has been dissolved or the dissolution of the House of the People takes place during the period of two months referred to in subclause (c), and if a resolution approving the proclamation has been passed by the Council of States, but no resolution with respect to such proclamation has been

passed by the House of the People before the expiration of that period, the proclamation shall cease to operate at the expiration of thirty days from the date on which the House of the People first sits after its reconst itutions, unless before the expiration of the said period of thirty days a resolution approving the proclamation has been also passed by the House of the People.

21. (b) Hieun Tsang, the Chinese pilgrim, visited India during the reign of Harshavardhana with an aim of securing authentic Buddhist scripts. The Kannauj Assembly (AD 643) was held in honour of Hieun Tsang and to popularise Mahayana sect of Buddhism. He stayed in India for about fifteen years and recorded his experience in his book, 'Si-Yu-Ki'. The book throws lights on the religion, customs, traditions, etc. of the country.

22. (c) Neptune is the eighth planet an the farthest planet from the Sun. It is the third largest planet in our solar system, smaller than the real giants, Jupiter and Saturn, and only a little bigger than Uranus. Neptune cannot be seen without a large telescope. It was the first planet which was located through mathematical predictions. Its blue colour is due to the presence of methane in the atmosphere. Neptune is known as the ice giant of the outer solar system, the other ice giant is Uranus. Neptune is named after the Roman God of the Sea.

23. (a) To twiddle is to spin your racket in order to switch the backhand side of the racket to the forehand side of the racket. This is often used by defensive players who use a pimpled rubber on one side and a regular inverted rubber on the other side. In the middle of a fast rally, this player will twiddle and play the ball with the other rubber, hoping the opponent doesn't notice the change and is then likely to misplay the ball.

24. (d) 25. (c)

26. (b) As nest is related to bird, similarly, den is related to lion.



36. (d)  $1 \times 7 = 7$  $7 \times 6 = 42$  $42 \times 5 = 210$  $210 \times 4 = 840$  $840 = \times 3 = 2520$ Finally, the missing number is 2520. 37. (c) According to the question: C > A > E > BB has the least money out of A, B, C and E. 38. (a) According to the dictionary, the sequence of words is : (i) Monopoly, (ii) Manifesto, (iii) Manifold, (iv) Mankind 39. (b) As H I S TORY Ś QN Х R Similarly, ЕТНІ C S RBHG Finally, 'ETHICS' is written as RBHGSF. 40. (c) 3 + 2 + 9 = 146 + 2 + ? = 14? = 14 - 8 = 641. (c) 96 L 8 S 4 V 16 M 9 *.*..  $= 96 \div 8 \times 4 - 16 + 9$  $= 12 \times 4 - 16 + 9$ =48 - 16 + 9 = 57 - 16 = 4142. (b) cdef/cdef/cdef So, the set of letters 'dfece' completes the series. 43. (d) NE  $\eta^{\rm cE}$ 

The girl's direction is South-east.



Finally, Bishnu is the grandson of Dev.



46. (d) Bourvita and Horlicks both are food supplement. Then



47. (c) A piece of paper, punched and folded, when opened will appear

like this:  $\left\langle \begin{array}{c} 0 & 0 \\ 0 & 0 \\ 0 & 0 \\ \end{array} \right\rangle$ 

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48. (d) Yoga Practitioners who are neither Geneticists nor fathers can be represented by such region which is present in the circle, but outside triangle and rectangle. Such regions are marked F and G.

49. (a) Answer figure (a) will complete the pattern of the qu estion figure.

50. (b) 
$$F = 76$$
, (87), 98  
 $R = 01, 12, (23), 34$   
 $I = 57, 68, (79), 34$   
 $E = 10, (21), 32, 43$   
 $N = 56, 67, (78), 99$   
 $D = (20), 31, 42$   
For FRIEND, the set of numbers  
7, 23, 79, 21, 78, 20  
51. (a)  $x = \csc 135^{\circ}$   
 $= \csc (90^{\circ} + 45^{\circ})$   
 $= \sec 45^{\circ}$   
 $= \sqrt{2}$ 

is

52. (a) Volume of cube =  $(side)^3$  $= 7 \times 7 \times 7 = 343$  cm<sup>3</sup> Volume of cone =  $\frac{1}{3}\pi r^2 h$  $=\frac{1}{3} \times \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} \times 7$  $= 89.833 \text{ cm}^3$ :. Volume of remaining cube =(343-89.833) $= 253.17 \text{ cm}^3$ 53. (a) Let the three numbers be  $X_1$ ,  $X_2$ ,  $X_3$ , respectively. According to the question:  $\frac{X_1 + X_2 + X_3}{3} = 72$  $\therefore$  X<sub>1</sub> + X<sub>2</sub> + X<sub>3</sub> = 72 × 3 ...(i) and  $X_1 = \frac{2}{7}(X_2 + X_3)$  $X_1 = \frac{2}{7}X_2 + \frac{2}{7}X_3$  ...(ii) Putting value of  $X_1$  in equation (i):  $X_1 + X_2 + X_3 = 72 \times 3$  $\Rightarrow \frac{2}{7}X_2 + \frac{2}{7}X_3 + X_2 + X_3$  $= 72 \times 3$  $\Rightarrow \frac{9}{7}X_2 + \frac{9}{7}X_3 = 72 \times 3$  $\Rightarrow \frac{9}{7}(X_2 + X_3) = 72 \times 3$  $\therefore \quad (\mathbf{X}_2 + \mathbf{X}_3) = \frac{72 \times 3 \times 7}{9}$ = 168 From equation (ii)  $\Rightarrow X_1 = \frac{2}{7} \times 168 = 48$ Finally, the first number  $(X_1)$  is 48. 54. (d) The expression  $(x+5)^2 + (x-3)^2$  $= (x^2 + 25 + 10x) + (x^2 + 9 - 6x)$  $= x^2 + 25 + 10x + x^2 + 9 - 6x$  $= 2x^2 + 34 + 4x$ 

55. (a) The fraction  $\frac{3565}{1495}$  $\therefore$  The simplest form =  $\frac{31}{13}$ 56. (b) Let the number be x. : According to the question:  $\Rightarrow$  x + 42 =  $\frac{121}{100} \times x$  $\Rightarrow \frac{121x}{100} - x = 42$  $\Rightarrow \frac{21x}{100} = 42$  $\therefore \quad x = \frac{42 \times 100}{21} = 200$ Finally, the number is 200. 57. (c) Total distance between Rizvan and Ruchitha be x. Relative speed = (15 + 20)= 35 km/hr.: When they started to walk towards each other, then distance

$$=\frac{35\times42}{60}=24.5$$
 km

58. (b) Let the third proportional number be x. According to question:

$$7: 21: : 21: x$$
  

$$\Rightarrow 7x = 21 \times 21$$
  

$$\therefore x = \frac{21 \times 21}{7} = 63$$

Finally, third proportional number is 63.

59. (a) After 30% discount on an item, the price is ₹ 70.

Applying 5% cashback, the price is:

$$=\frac{70\times5}{100}=3.5$$

: The effective discount

=(30+3.5)=33.5%

- 60. (a) Let the sum be P
- : According to the question,

$$7056 = \frac{P \times 8 \times 7}{100}$$
  
∴  $P = \frac{7056 \times 100}{8 \times 7} = ₹ 12600$ 

 $= 2x^2 + 4x + 34$  $= 2(x^2 + 2x + 17).$  61. (c) A mason can build a wall in 18 hours and after a hour he takes a break.

The fraction of the wall to be *.*.. built  $=\frac{9}{18} = 0.5$ 62. (a) Profit = (8 - 3) = 5 $\therefore$  Profit percentage =  $\frac{3 \times 100}{5}$ = 60%63. (b) Let the angle be x Complementary angle  $= (90^{\circ} - x)$ According to the question,  $\Rightarrow x + x - 40^{\circ} = 90^{\circ}$  $\Rightarrow 2x = 90^{\circ} + 40^{\circ}$  $\Rightarrow 2x = 130^{\circ}$  $\therefore$  x = 65° 64. (b) Diagonals form two congruent triangles. 65. (c) Let the number be x. : According to the question:  $\Rightarrow 3x + \frac{2}{x} = \frac{97}{4}$  $\Rightarrow \frac{3x^2+2}{x} = \frac{97}{4}$  $\Rightarrow 12x^2 + 8 = 97x$  $\Rightarrow 12x^2 - 97x + 8 = 0$  $\Rightarrow 12x^2 - 96x - x + 8 = 0$ 12x(x-8) - 1(x-8) = 0(x-8)(12x-1)=0x - 8 = 0 and 12x - 1 = 0 $x = 8, x = \frac{1}{12}$  $\therefore$  Hence, the number is 8. 66. (a) 38)2134(56)

 $\therefore \text{ Required quotient} = 56$ 

67. (b) (A + B)'s 1 day's work =  $\frac{1}{15}$ A's 1 day's work =  $\frac{1}{20}$ 

 $\therefore$  B's 1day's work  $=\frac{1}{15}-\frac{1}{20}$  $=\frac{4-3}{60}=\frac{1}{60}$ .: Time taken by B in doing 1 work = 60 days $\therefore$  Time taken by B in doing  $\frac{1}{2}$  work days  $\frac{60}{2} = 30$  days 68. (c) D 51 cm 24 cm В C  $\therefore$  BC =  $\sqrt{AC^2 - AB^2}$  $=\sqrt{51^2-24^2}$  $=\sqrt{(51+24)(51-24)}$  $=\sqrt{75 \times 27} = 45 \text{ cm}$  $\therefore$  Area of rectangle = AB × BC  $= (24 \times 45)$  sq. cm. = 1080 sq. cm. 69. (d) Let the C.P. of wares be ₹ 100 their marked price = ₹ 160 Their S.P. =  $\mathbf{E}\left(\frac{160 \times 90}{100}\right)$ = ₹ 144 *.*.. Profit percent = 44%÷. Required S.P. = ₹ $\left(\frac{7500 \times 144}{100}\right) =$  ₹ 10800 70. (b) From option (b):  $\frac{94+11}{24+11} = \frac{150}{35} = 3$ and  $\frac{100+11}{26+11} = \frac{111}{37} = 3$ 

71. (d) Let the required average runs be x.

According to the question: 16x - 15(x - 3) = 81 $\Rightarrow 16x - 15x + 45 = 81$  $\Rightarrow$  x = 81 - 45 = 36 72. (a) LCM of 12 and 2 = 60∴ C.P. of 60 bananas =₹ $\left(\frac{60}{12} \times 60\right) =$ ₹ 300 Their S.P. =  $\mathbf{E}\left(\frac{32}{5} \times 60\right)$ =₹384 : Gain per cent  $=\left(\frac{384-300}{300}\right) \times 100 = \frac{84}{3}$ = 28%73. (b) Production of cars in country D = 1 millions Production of cars in country F = 2millions D < F < C < A < B < E74. (b) Required percentage  $=\left(\frac{0.9-0.8}{0.8}\right) \times 100 = \frac{1}{8} \times 100$ 

= 12.5% 75. (a) Total production of cars by all countries

= (0.4 + 0.8 + 0.3 + 0.1 + 0.9 + 0.2) millions = 2.7 millions $\therefore \text{ Number of petrol engine cars} (2.7 \times 65)$ 

$$= \left(\frac{217700}{100}\right) \text{ millions}$$
$$= 1.755 \text{ millions}$$