

# Sample Questions

for

# ASAT

(ALLEN Scholarship Cum Admission Test)

**CLASSROOM CONTACT PROGRAMME**

**PRE-NURTURE & CAREER FOUNDATION : CLASS-VI**

(FOR V to VI MOVING STUDENTS)



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## INSTRUCTIONS

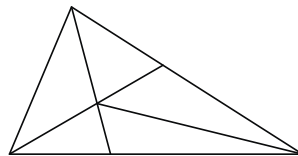
Things NOT ALLOWED in EXAM HALL : Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these then keep them at a place specified by invigilator at your own risk

1. This booklet is your Question Paper. **DO NOT** break seal of Booklet until the invigilator instructs to do so.
2. Fill your Form No. in the space provided on the top of this page.
3. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black & blue ball point pen.
4. Total Questions to be Attempted 80. Part-I : 20 Questions & Part-II : 60 Questions.
5. After breaking the Question Paper seal, check the following:
  - a. There are **13 pages** in the booklet containing question no. 1 to 80 under 2 Parts i.e. Part-I & Part-II.
  - b. Part-I contains total 20 questions of IQ (Mental Ability).
  - c. Part-II contains total 60 questions under 4 sections which are - Section (A) : Physics, Section (B) : Chemistry, Section(C) : Biology & Section (D): Mathematics.
6. Marking Scheme:
  - a. If darkened bubble is RIGHT answer : **4 Marks**.
  - b. If no bubble is darkened in any question: **No Mark**.
  - c. **Only for part - II** : If darkened bubble is WRONG answer: **-1 Mark (Minus One Mark)**.
7. Think wisely before darkening bubble as there is negative marking for wrong answer.
8. If you are found involved in cheating or disturbing others then your ORS will be cancelled.
9. Do not put any stain on ORS and hand it over back properly to the invigilator.

**PART-I**
**IQ (MENTAL ABILITY)**

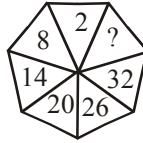
This section contains **20 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

- Find the wrong term in following series.  
4, 8, 13, 16, 20, 24  
(1) 8                      (2) 13                      (3) 16                      (4) 20
- What direction will you face if you start facing west and make  $\frac{1}{4}$  of a revolution clockwise?  
(1) South                      (2) North                      (3) West                      (4) East
- If the first and last i.e. the first and the 26th letter of the English alphabet are paired, the second and 25th, the third and the 24th and so on are paired which of the following would be such a pair?  
(1) EW                      (2) BY                      (3) FV                      (4) BW
- How many 3 digit numbers can be formed using digits 4, 5, 6 only once  
(1) 5                      (2) 6                      (3) 3                      (4) 4
- In the following question, choose the pair of words that show the same relationship as given in the above pair  
Summer : Raining  
(1) Monday : Sunday                      (2) Summer : Winter  
(3) December : January                      (4) Licence : Driving
- Letters of the word given below have been jumbled up. You are required to construct the word. Each letter has been numbered. Choose the option which gives the correct order of the letters as indicated by the numbers to form the word.  
T R I F U  
1 2 3 4 5  
(1) 3, 1, 2, 4, 5                      (2) 4, 2, 5, 3, 1                      (3) 4, 3, 2, 1, 5                      (4) 5, 3, 2, 1, 4
- How many triangles are there in the following figure ?



- (1) 6                      (2) 10                      (3) 11                      (4) 12
- In the following question, four words are given. Which of them will come at the third position if all of them are arranged alphabetically as in a dictionary ?  
(1) Heaven                      (2) Hillock                      (3) Hawker                      (4) Hilt
  - If in a certain language KINDLE is coded as ELDNIK, how is EXOTIC coded in that code ?  
(1) CXOTIE                      (2) COXITE                      (3) CITOXE                      (4) EOXITC

10. A plane flying in North-West direction turns clockwise by an angle of  $45^\circ$ . In which direction is it flying now?  
 (1) North (2) South (3) West (4) South-west
11. X is brother of Y. B is brother of A. A is mother of X. What is B of Y ?  
 (1) Aunt (2) Niece (3) Nephew (4) Uncle
12. Find the missing character from amongst the given alternatives.



- (1) 37 (2) 38 (3) 39 (4) 42

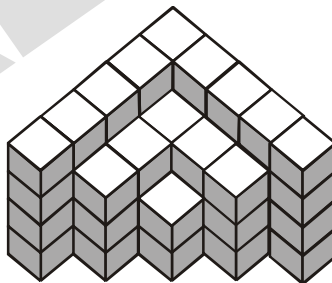
**Direction :** (Q.13 & Q.14) : P, Q, R, S, T, U, V and W are sitting round the circle and facing the centre  
 P is second to the right of T who is the neighbour of R and V.

S is not the neighbour of U.

V is the neighbour of U.

Q is not between S and W. W is between Q and S.

13. What is the position of S ?  
 (1) Between U and V (2) Second to the right of P  
 (3) To the immediate right of P (4) Data inadequate
14. Which two of the following are not immediate neighbours ?  
 (1) R and V (2) U and V (3) R and P (4) Q and W
15. Find the value of  $\star + \star + \square$  If  $\square + \square + \square + \square + \square = 175$  and  $\square \div \star = 5$   
 (1) 7 (2) 14 (3) 35 (4) 49
16. How many unit cubes are there in the figure ?



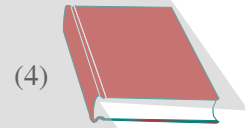
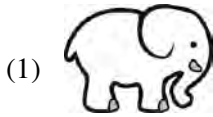
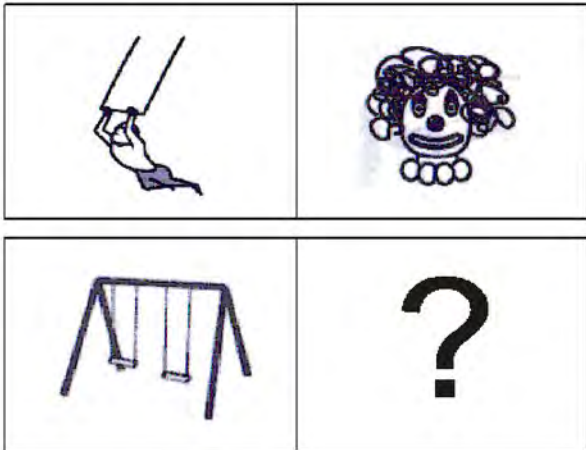
- (1) 52 (2) 53 (3) 54 (4) 56

17. What should come next?

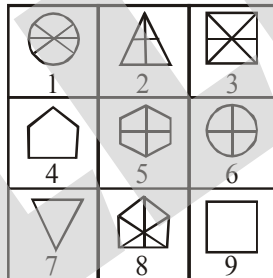


- (1) (2) (3) (4)

18. Which figure completes the second pair in the same way as the first pair.



19. Group the following figures into three classes regarding common properties amongst them.



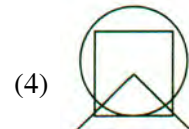
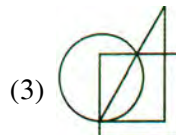
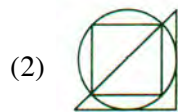
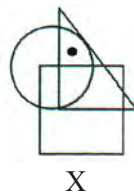
(1) 4, 7, 9; 2, 5, 8; 1, 3, 6

(2) 4, 7, 9; 2, 5, 6; 1, 3, 8

(3) 1, 2, 3; 4, 5, 6; 7, 8, 9

(4) 1, 2, 3; 4, 7, 9; 5, 6, 8

20. In the following question, from amongst the figures marked (1), (2), (3) and (4), select the one which satisfies the same condition of placement of the dot as in the given figure (X)

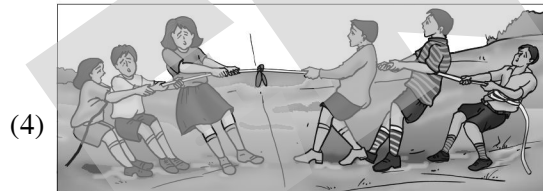


**PART-II**

**SECTION-A : PHYSICS**

This section contains **12 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

**21.** In which of the following figures only pushing force is applied?



**22.** Work is always done when

- (1) an object moves.
- (2) a force moves an object.
- (3) a force is exerted on an object.
- (4) an object has mass.

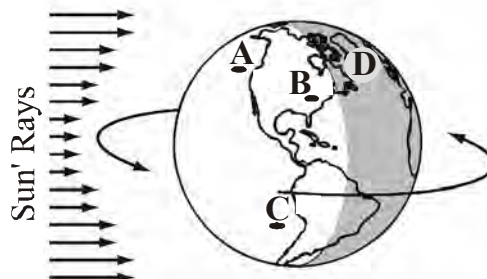
**23.** An axe is an example of which type of simple machine?

- (1) Screw
- (2) Inclined plane
- (3) Wedge
- (4) Lever

**24.** A standard bottle opener is an example of which type of lever?

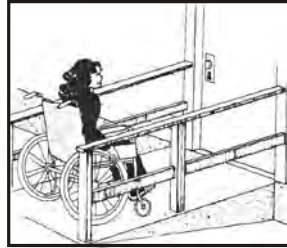
- (1) Lever of the first order
- (2) Lever of the second order
- (3) Lever of the third order
- (4) Lever of the fourth order

**25.** In the diagram below, which of these locations would enter the night-time side of Earth next?



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

26. The Great Red Spot is a planetary feature that has been observed for hundreds of years. On which planet is the Great Red Spot?  
 (1) Venus (2) Mars (3) Neptune (4) Jupiter
27. The illustration below shows a student approaching the door to a building.

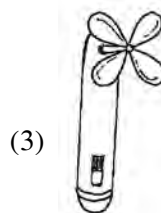
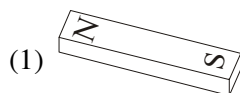


Which two simple machines are being used to enable the student to reach the door?

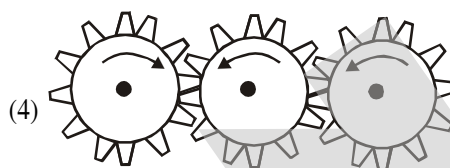
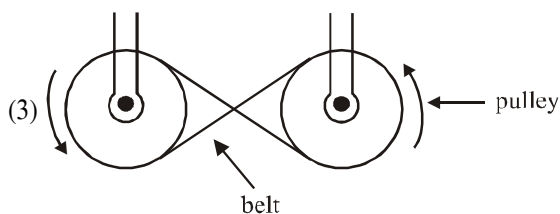
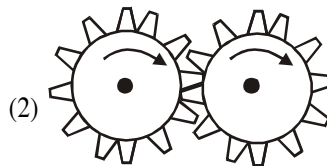
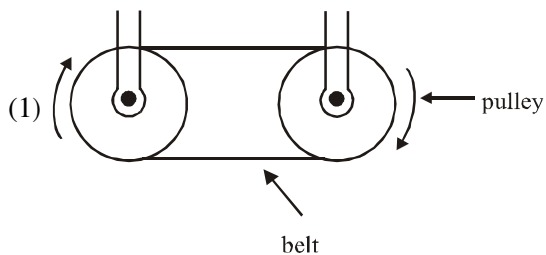
- (1) Inclined plane and pulley (2) Lever and wheel-and-axle  
 (3) Pulley and lever (4) Wheel-and-axle and inclined plane
28. Which among the following is the unit of force?  
 (1) Newton (2) Dyne  
 (3)  $kg \frac{m}{s^2}$  (4) All are units of force
29. The picture shows Raj pulling the car made of iron with a wand.



Which of these is probably inside the wand?



30. Alisha wants to build a machine for her technology class. To think of ideas, she drew four sketches of moving parts for her machine. Which design will work?



31. All stars appear to move from
- (1) East to West
  - (2) West to East
  - (3) North to South
  - (4) South to North
32. Which among the following planets has no rings around it?
- (1) Jupiter
  - (2) Saturn
  - (3) Uranus
  - (4) Mars

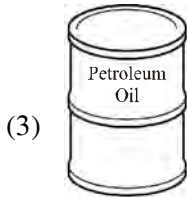
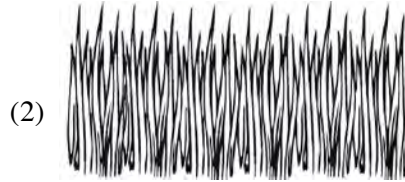
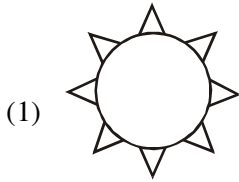
### SECTION-B : CHEMISTRY

This section contains **11 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

33. Substance from which metal is economically extracted is known as
- (1) Mineral
  - (2) Ore
  - (3) Flux
  - (4) Slag
34. Soil can be conserved by
- (1) Afforestation
  - (2) Terrace farming
  - (3) Bunds
  - (4) All the above
35. The origin point of an earthquake is called the
- (1) Epicentre
  - (2) Crater
  - (3) Focus
  - (4) None of these
36. What is the full form of 'NGO'?
- (1) Non-Government Organisation.
  - (2) National Government Organisation
  - (3) National Growth Organisation
  - (4) New Great Organisation



37. Nonrenewable resources are natural resources that cannot be replaced quickly by nature when they get used up. According to this definition, which of these is a nonrenewable resource?



38. Diamond is formed at.....

- (1) high temperature and high pressure
- (2) high temperature and low pressure
- (3) low temperature and high pressure
- (4) low temperature and low pressure

39. The diagram below shows the effect of a river on an area over many years.



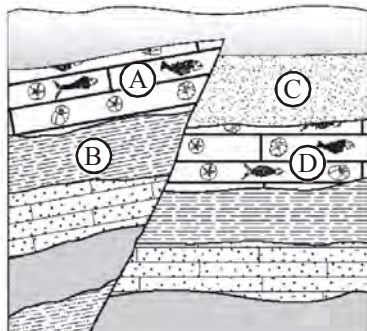
Which process caused the valley to form?

- (1) condensation
- (2) deposition
- (3) erosion
- (4) evaporation

40. The size of crystals in igneous rock can be determined by how fast the magma cools and solidifies. The faster the magma cools, the smaller the crystals. Which sample of granite is formed from magma that is cooled and solidified at the slowest rate?



41. The layers of this area do not line up. Which of the following could have caused this ?



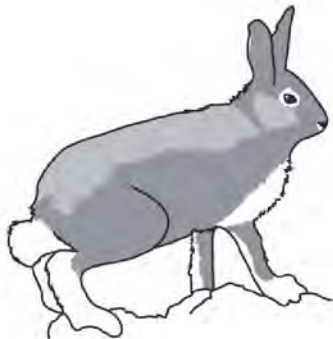
- |                |                 |
|----------------|-----------------|
| (1) Weathering | (2) Earthquakes |
| (3) Erosion    | (4) Volcanoes   |
42. Carbon dioxide is produced during:
- |                                    |                                    |
|------------------------------------|------------------------------------|
| (1) Photosynthesis and inspiration | (2) Transpiration and combustion   |
| (3) Burning and respiration        | (4) Respiration and photosynthesis |
43. Vermi - Composting involves the addition of
- |                |                           |
|----------------|---------------------------|
| (1) Red-worm   | (2) Chemicals             |
| (3) Pesticides | (4) Wastes of plants only |

### SECTION-C : BIOLOGY

This section contains **12 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

44. The main sources of vitamins and minerals are
- |                                 |                                   |
|---------------------------------|-----------------------------------|
| (1) Pulses, meat and egg        | (2) Oil, butter and ghee          |
| (3) Fruits and green vegetables | (4) Potato, maize, wheat and rice |
45. Respiratory pigment found in insects is
- |                  |                 |
|------------------|-----------------|
| (1) Haemocyanin  | (2) Haemoglobin |
| (3) Both 1 and 2 | (4) Lymph       |
46. A person is suffering from Anaemia, the food recommended for recovery of this disorder are
- |                             |                       |
|-----------------------------|-----------------------|
| (1) Iodised salt & sea food | (2) Sea food and milk |
| (3) Butter, fish & meat     | (4) Apple & Spinach   |
47. Which of the following disease is non communicable?
- |                |                  |
|----------------|------------------|
| (i) Cholera    | (ii) Typhoid     |
| (iii) Diabetes | (iv) Chicken pox |
- (1) (i), (ii) and (iii)      (2) (iii) only      (3) (i) & (ii) only      (4) All of these
48. According to the feeding habits of sparrows i.e. crushing of seeds, their beaks have been specialised as being
- |                       |                    |
|-----------------------|--------------------|
| (1) Broad and notched | (2) Short & strong |
| (3) Sharp and hooked  | (4) None of these  |

49. Pernicious anaemia, failure of erythrocytes to mature, is mainly due to deficiency of
- (1) Vitamin K (2) Thiamine  
(3) Vitamin C (4) Cyanocobalamin
50. Which of these best defines communicable diseases?
- (1) They can be cured. (2) They are caused by bacteria.  
(3) They are spread to others. (4) They can spread only in winter.
51. The pictures below show the change in the fur of an arctic hare from summer to winter.



Fur in summer



Fur in winter

Which of the following statements best describes how this change helps arctic hares?

- (1) It lowers their body temperature. (2) It protects their eyes from sunlight.  
(3) It helps them to move on slippery ice. (4) It makes them less visible to predators.
52. John has diabetes.
- Which of the following should he be careful about eating or drinking?
- (1) Beef (2) Eggs (3) Milk (4) Fruit juice
53. A polar bear is almost completely covered with white fur. The few parts without fur include the foot pads on its large, clawed paws. The foot pads are black and covered with many small bumps. The bumps help the polar bear to
- (1) Conserve body heat (2) Swim quickly in cold water  
(3) Walk on ice without slipping (4) Blend in with its surroundings
54. Observe the mouthpart of the insect in the illustration below and determine how it would feed ?

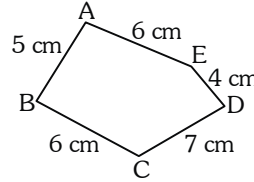


- (1) Cut plant tissues (2) Siphon nectar  
(3) Sponge up food (4) Pierce skin and suck liquids
55. For immediate energy production in cells one should take
- (1) Glucose (2) Proteins  
(3) Vitamin C (4) Minerals

**SECTION-D : MATHEMATICS**

This section contains **25 Multiple Choice Questions**. Each question has four choices (1), (2), (3) and (4) out of which **ONLY ONE** is correct.

56. Find the perimeter of the following figure.

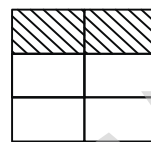
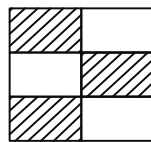


- (1) 23 cm
- (2) 25 cm
- (3) 28 cm
- (4) None of these

57. Which figure can be made using 3 matchsticks (without breaking the sticks) ?

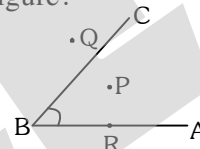
- (1) Square
- (2) Rectangle
- (3) Triangle
- (4) Circle

58. Which figure represents greater fraction by shaded part ?



- (1) (i)
- (2) (ii)
- (3) both are equal
- (4) None of these

59. Which point is interior to the angle in the following figure?



- (1) P
- (2) Q
- (3) R
- (4) Both P & Q

60. A pipe leaks 3.5 gallons of water each hour.

Which table represents the total amount of water leaked at the end of each hour?

(1)

Time(Hours)	Water Wasted (gallons)
1	3.5
2	3.5
3	3.5
4	3.5
5	3.5

(2)

Time(Hours)	Water Wasted (gallons)
1	3.5
2	7
3	10.5
4	14
5	17.5

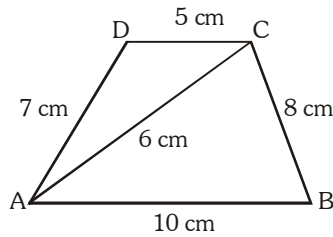
(3)

Time(Hours)	Water Wasted (gallons)
1	3.5
2	7
3	21
4	84
5	420

(4)

Time(Hours)	Water Wasted (gallons)
1	3.5
2	12.25
3	42.88
4	150.06
5	525.22

61. Find the perimeter of the following figure ABCD.



- (1) 30 cm                      (2) 36 cm                      (3) 42 cm                      (4) 24 cm

62. If two angles of a triangle are equal and third is unequal, then the triangle is

- (1) Isosceles triangle    (2) Equilateral triangle    (3) Scalene triangle    (4) None of these

63. Mrs. Joshi will put a fence around her rectangular garden.

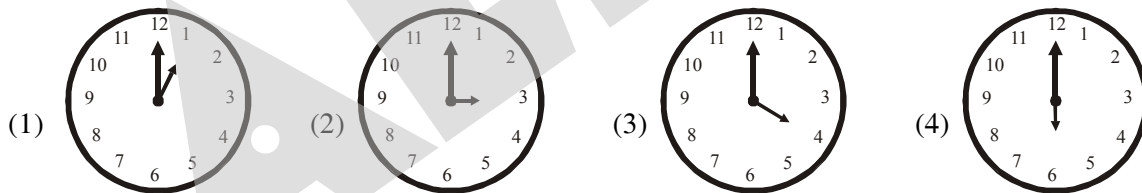
- The length of the garden is  $9\frac{5}{6}$  yards.

- The width of the garden is  $5\frac{1}{4}$  yards.

How many yards of fencing does Mrs. Joshi need?

- (1)  $14\frac{6}{10}$                       (2)  $29\frac{1}{12}$   
 (3)  $29\frac{1}{5}$                       (4)  $30\frac{1}{6}$

64. In which clock is the angle between the hour hand and the minute hand less than  $90^\circ$ ?

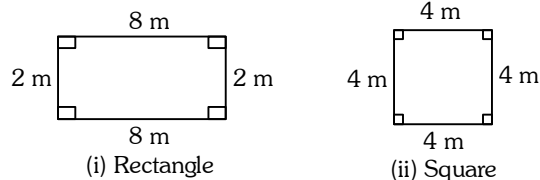


65. Solve

$$92\frac{7}{8} - 49.326 = ?$$

- (1) 40.152                      (2) 43.454                      (3) 43.549                      (4) 57.551

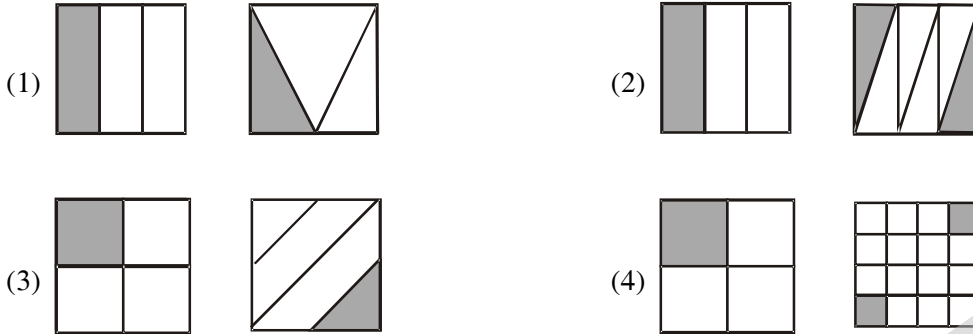
66. Which has greater area ?



- (1) (i)                      (2) (ii)                      (3) Both are equal                      (4) None of these

67. In a right angled triangle, one angle is  $48^\circ$  . Then find the remaining angle.  
 (1)  $45^\circ$  (2)  $42^\circ$   
 (3)  $90^\circ$  (4) Can't be determined

68. Which pair of figures has the same fractional area shaded gray?



69. When an arm of an angle is extended then the measure of angle  
 (1) Doubles (2) Triples  
 (3) Remains the same (4) None of these

70.  $2 + \frac{9}{10} + \frac{9}{100} + \frac{9}{1000} + \frac{1}{1000} =$

- (1) 3 (2) 2 (3) 2.999 (4) 2.991

71. If 5  can hold 25 litres of water, then 2 such  can hold \_\_\_\_\_ litres of water.

- (1) 5 L (2) 10 L (3) 15 L (4) 20 L

72. Mona spent Rs. 40 and had Rs. 10 left. What fraction of her money had she spent ?

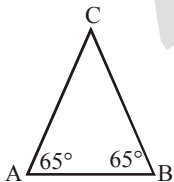
- (1)  $\frac{14}{5}$  (2)  $\frac{40}{5}$  (3)  $\frac{4}{5}$  (4)  $\frac{1}{5}$

73. Bob covered a floor with carpet.

Which unit of measure describes how much carpet he used ?

- (1) inches (2) feet (3) square feet (4) cubic inches

74. Triangle ABC is shown.



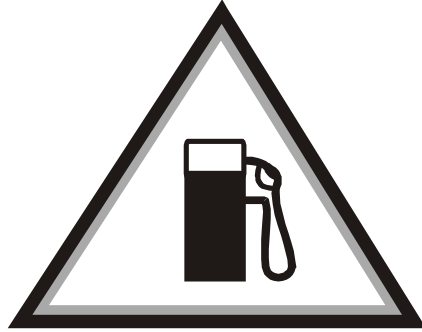
What is the measure of angle C ?

- (1)  $50^\circ$  (2)  $65^\circ$  (3)  $90^\circ$  (4)  $180^\circ$

75. Russell bought  $2\frac{1}{8}$  pounds of turkey and  $3\frac{3}{4}$  pounds of roast beef to make sandwiches. Which estimate is reasonable for the amount of meat he bought ?

- (1) 4 pounds (2) 5 pounds (3) 6 pounds (4) 7 pounds

76. Heavy rains caused the water level of a lake to rise eight hundred sixty-four thousandths of a meter. Which number is equivalent to eight hundred sixty-four thousandths?  
 (1) 0.0864 (2) 0.864 (3) 86,400 (4) 864,000
77. Bettina has a book with 364 pages. There are 14 chapters in her book. Each chapter has the same number of pages. How many pages are in each chapter of Bettina's book ?  
 (1) 25 (2) 26 (3) 27 (4) 28
78. The triangular sign shown below has a height of 14 inches and a base length of 18 inches.



What is the area of this sign ?

- (1) 126 square inches (2) 252 square inches  
 (3) 504 square inches (4) 756 square inches
79. Which two numbers have an difference of  $2/5$  ?  
 (1)  $18\frac{2}{3}$  and  $15\frac{1}{10}$  (2)  $18\frac{5}{10}$  and  $18\frac{1}{10}$  (3)  $18\frac{1}{4}$  and  $18\frac{1}{8}$  (4)  $18\frac{5}{4}$  and  $15\frac{1}{2}$
80. Roberto began his homework at 4:25 p.m. He finished it one and a half hours later. At what time did Roberto finish his homework ?  
 (1) 5:05 p.m. (2) 5:55 p.m. (3) 6:05 p.m. (4) 6:15 p.m.

**ANSWER KEY**

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	2	2	2	2	3	2	4	2	3	1	4	2	3	1	4	2	4	3	2	2
Que.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	3	2	3	2	2	4	4	4	1	1	1	4	2	4	3	1	3	1	3	4
Que.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	2	3	1	3	1	4	2	2	4	3	4	4	3	2	1	3	3	1	1	2
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Ans.	1	1	4	1	3	3	2	2	3	1	2	3	3	1	3	2	2	1	2	2