

# VELAMMAL NEXUS GROUP OF SCHOOLS



## V-STAR

SCHOLARSHIP TEST

MODEL QUESTIONS

CLASS: IX

### MATHEMATICS

1. What are the next numbers in the sequence?

17, 15, 26, 22, 35, 29, ....

- 1) 44, 36                      2) 36, 44                      3) 34, 46                      4) 38, 42

2. Romila appeared for a maths exam. She was given 100 problems to solve. She tried to solve all of them correctly but some of them went wrong. Any how she scored 85. Her score was calculated by subtracting two times the number of wrong answers from the number of correct answers. Can you tell how many problems she solved correctly?

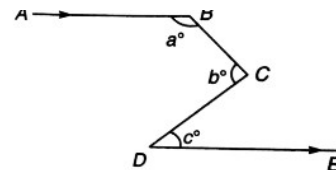
- 1) 65                              2) 85                              3) 95                              4) 75

3. The value of  $5 + \frac{2}{1 + \frac{3}{1 - \frac{2}{3}}}$  is:

- 1)  $5\frac{1}{5}$                               2)  $1\frac{4}{9}$                               3)  $2\frac{1}{6}$                               4)  $2\frac{2}{5}$

4. In the given figure, if  $AB \parallel DE$ , then value of  $a^\circ + b^\circ - c^\circ$  is \_\_\_\_\_

- 1)  $160^\circ$                               2)  $120^\circ$   
3)  $180^\circ$                               4)  $210^\circ$

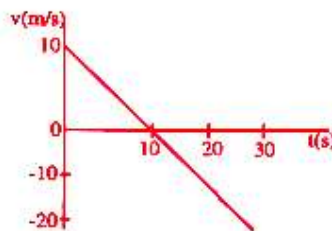


5. Integer answer type (Answer can be any digit from 0 to 9):

What must be added to each term of the ratio 2 : 3, so that it may become equal to 4 : 5?

### PHYSICS

1. The velocity-time plot for a particle moving on a straight line is shown in the figure



- (a) The particle has a constant acceleration

- (b) The particle has never turned around.  
 (c) The particle has zero displacement.  
 (d) The average speed in the interval 0 to 10s is the same as the average speed in the interval 10s to 20s

- (A) a and b are correct (B) b and c are correct  
 (C) c and d are correct (D) a and d are correct

2. If a car covers  $\frac{2}{5}$ th of the total distance with  $v_1$  speed and  $\frac{3}{5}$ th distance with  $v_2$  along a straight road, then the average speed of the car is

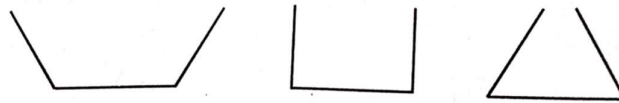
- (A)  $\frac{1}{2}\sqrt{v_1 v_2}$  (B)  $\frac{5v_1 v_2}{3v_1 + 2v_2}$  (C)  $\frac{2v_1 v_2}{v_1 + v_2}$  (D)  $\frac{v_1 + v_2}{2}$

3. A block 'B' rests on 'A'. A rests on a horizontal surface 'C' which is frictionless. There is friction between A and B. If 'B' is pulled to the right by an external force,

- (a) The direction of friction on A is towards right  
 (b) The direction of friction on B is towards left  
 (c) static friction may be exist in between A & B  
 (d) kinetic friction may be exist in between A & B

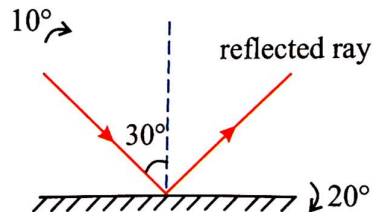
- (A) a and b only correct (B) b and c only correct  
 (C) c and d only correct (D) all are correct

4. The three vessels shown in figure have same base area. Equal volumes of liquid are poured in the three vessels. The force on the base will be



- (A) Maximum in vessels A (B) Maximum in vessels B  
 (C) Maximum in vessels C (D) Equals in all the vessels

5. Figure shown a plane mirror onto which a light ray is incident. If the incident light ray is turned by  $10^\circ$  and the mirror by  $20^\circ$  as shown, then the angle turned by the reflected ray is  $10n$  in degrees in clockwise direction. calculate 'n'?



## CHEMISTRY

- Which of the following is not a difference between fertilizer and manure?  
A) Fertilizer does not provide any humus to the soil but manure provides a lot of humus to the soil.  
B) Manure is relatively high rich in plant nutrients  
C) Fertilizer is a man-made inorganic salt  
D) Manure improves the texture of the soil.
- The oxide of sulphur (which can be further oxidised) when dissolved in water gives  
A) Hydrogen sulphide                      B) Sulphurous acid  
C) Sulphuric acid                          D) Hydrogen Gas
- Which of the following represents an incorrect match?  
A) Coal gas – Methane + Hydrogen  
B) LPG – Propane + Butane  
C) Producer gas – Carbon dioxide + Nitrogen  
D) CNG – Compressed methane
- Two substances A and B React as shown below  
$$2A_{(g)} + 3B_{(g)} \longrightarrow A_2B_{3(?)}$$
  
A) Product has fixed composition of A and B irrespective of method of preparation  
B) As B is major in proportions, the product properties are more similar to B  
C) The product must be a gas as reactants are gases  
D) All the above
- A tadpole develops into an adult frog by the process of  
(A) fertilisation      (B) metamorphosis      C) embedding                      (D) budding

## MATHS

1. A	2. C	3. A	4. C	5. 2
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## PHYSICS

1. D	2. B	3. D	4. C	5. 3
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## CHEISTRY

1. B	2. B	3. C	4. A	5. B
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