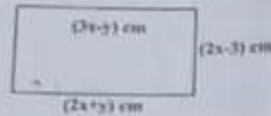
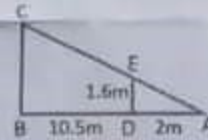


- (c) Find the missing number in the series below (5)
- (i) 1, 8, 4, 27, 9, ? (ii) 3, 6, 8, 10, 8, 32, ? (iii) 2, 8, 512, ?
- (iv) 81, 9, 64, 8, 7, 12 (v) 6, 11, 21, 36, 56, ?

- (c) The perimeter of the rectangle given below is 114 cm. Find the area of the rectangle. (5)



- (d) Ahmad stands at point D, 2m in front of a spotlight at point A. He is 1.6m tall and is facing the wall of a building which is 10.5m away from him. How tall (BC) is his shadow on the wall of the building. (5)(20)



- Q. 7 (a) Ali is standing 10 meters away from a tree. The distance of his eyes from his feet is 1.5 meter. Given that the distance from his eyes to the top of the tree is 15 meters, find the height of the tree. (5)
- (b) Find out the correct word from the jumbled spellings given below. (5)
LNUGEF, CKANS, CIREFE, EERAANMOGTP, MNIKPPU.
- (c) Draw and write the total number of lines of symmetry in a regular hexagon and octagon. How many lines of symmetry are there in a circle? (5)
- (d) The height of the Egyptian pyramid is 146.6 meters and a base length is 230.6 meters. Find the volume of that pyramid. (5)(20)

- Q. 8. (a) Ali buys an oven for Rs. 36800 and sells it at a gain of 8.5%. For how much does he sell it? (5)
- (b) A card is drawn at random from a box containing 12 cards numbered 1, 2, 3, 4, 5, ..., 12. Find the probability of drawing (i) '8', (ii) an even number, (iii) a perfect square, (iv) a negative number and (v) a number less than 13. (5)
- (c) The scintillation nuclear radiation detector detects the alpha rays per second. When the energy of the alpha rays (E_α) in MeV increases, the number of counts (N_c) on the detector also increases linearly as shown in the table below. (5)

E_α (MeV)	0.25	0.45	0.65	1	1.4
N_c	17500	23500	29500	40000	52000

Draw the graph of N_c as a function of E_α (MeV) and find the energy of unknown alpha ray if the number of counts are 31600.

- (d) The y is directly proportional to x^2 and $y = m$ for a particular value of x . Find an expression for y in terms of m , when this value of x is doubled. (5)(20)
