

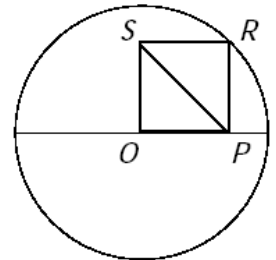
SAMPLE QUESTIONS

1) An ant which is at the corner (at **A**) of a wooden cube, have to reach his friend exactly at the opposite corner (at **B**). What is the length of shortest path he can take along the surface of the cube? (Each edge of wooden cube is 1cm in length).



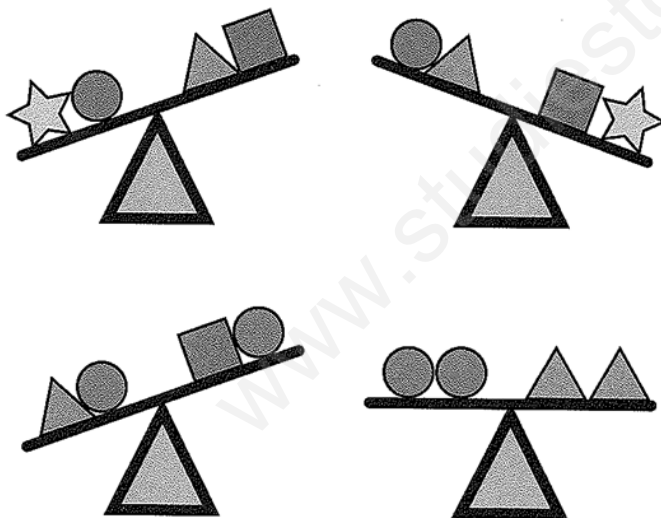
- a) $\sqrt{3}cm.$ b) $\sqrt{5}cm.$ c) $(\sqrt{2} + 1) cm.$ d) 3cm.

2) In the figure to the right, O is both the centre of the circle with radius 2 and a vertex of the square OPRS. What is the length of diagonal PS



- a) $\frac{1}{2}$ b) $\frac{\sqrt{2}}{2}$ c) 4 d) 2

3) Look at the four balances below and find out which of the four different objects weighs the least. Assume that distance from the fulcrum (the center of the balance) has no effect on the result.



- a) b) c) d)

4) A man weighing 60kgs applies a force of 40N on a man weighing 40kgs. What is the force the man weighing 40kgs apply on the man weighing 60 kgs?

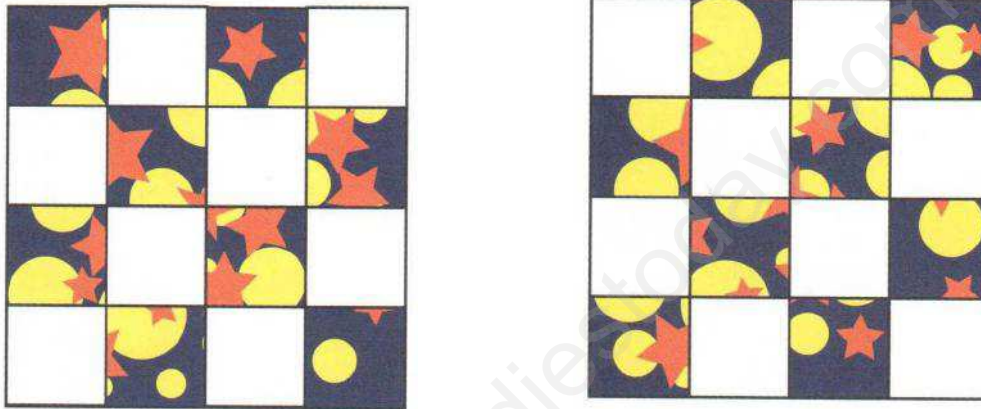
- a)60 N b)40N c) will not apply any force d)cannot be determined.

5) How will the image formed by a convex lens be affected, if the central portion of the lens is wrapped in black paper, as shown in the fig.

- a) No image will be formed
- b) Full image will be formed but it is less bright
- c) Full image will be formed but without the central portion
- d) Two images will be formed, one due to each exposed half.

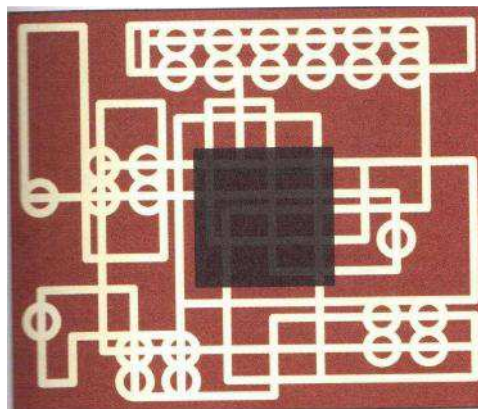


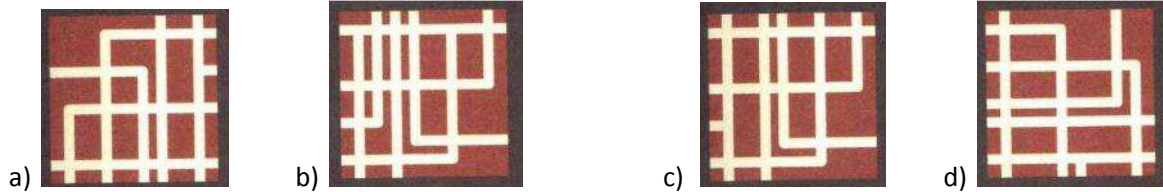
6) Mentally try to combine the two images below, so the white squares on one are replaced with the contents of the coloured squares from the other, and vice-versa. How many yellow circles are there?



- a) 20
- b) 11
- c) 23
- d) 25

7) A piece is missing from this electronic circuit. Pick which one of the four pieces below fits into the gap in order to complete the circuit? Once complete all of the lines will connect at both ends. Please note that you may need to rotate the correct piece.



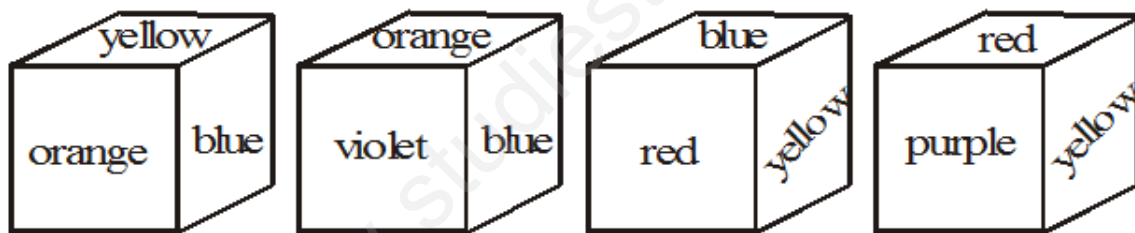


8) A flag is hoisted between sea and land and at night, the flag is found to be waving in the direction as shown in the figure. Which of the following statements is true?

- a) Land is on left side of the pole shown.
- b) Sea is on left side of the pole shown.
- c) Land is on right side of the pole shown.
- d) Land and sea can be either left side or right side.



9) Colour is opposite to yellow ?



- (a) Violet
- (b) Red
- (c) Purple
- (d) Blue

10) A photograph of the moon was taken with telescope. Later on, it was found that a housefly was sitting on the objective lens of the telescope. In photograph –

- a) The image of housefly will be reduced
- b) There is a reduction in the intensity of the image
- c) There is an increase in the intensity of the image
- d) The image of the housefly will be enlarged