THE TIMES OF INDIA

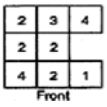
and

BYJU'S CLASSES

presents

Think & Learn Challenge

1. The diagram given here shows the top view of a structure built with identical cubes, as well as the number of cubes in each column of the structure. Which 3-dimensional view best represents the same structure?



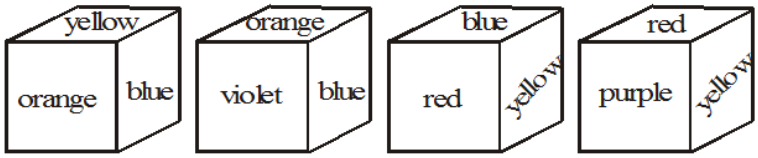
A 

B 

C 

D 

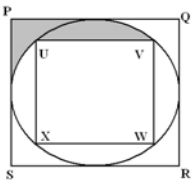
2. Colour opposite to yellow?



(A) Violet (B) Red (C) Purple (D) Blue

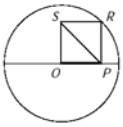
3. UVWX is a square inscribed in a circle, which in turn is circumscribed by another square PQRS. If the area of the circle is 64 π sq cm, find the area of the shaded region?

(A) 32 (B) 16 (C) 48 (D) 64



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

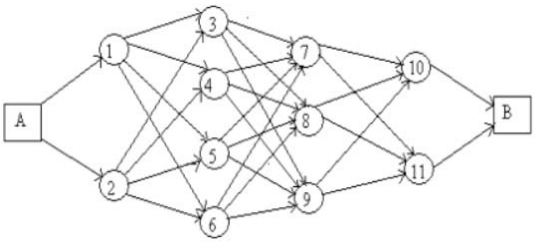
(A) $\frac{1}{2}$ (B) $\frac{\sqrt{2}}{2}$ (C) 4 (D) 2



5. An ant which is at the corner (**A**) of a wooden cube, has to reach his friend who is exactly at the opposite corner (**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.

6. The travel routes from city A to city B are shown below.

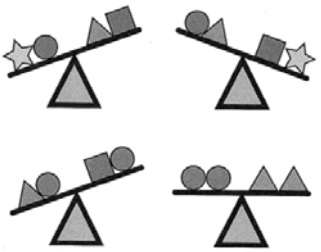


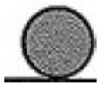
The total number of possible routes from A to B:

(A) 52 (B) 44 (C) 36 (D) 48

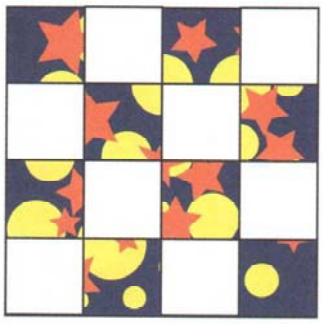
7.A cube of side 12 cm is painted red on all the faces and then cut into smaller cubes, each of side 3 cm. What is the total number of smaller cubes having none of their faces painted?
(A) 16 (B) 8 (C) 12 (D) 24

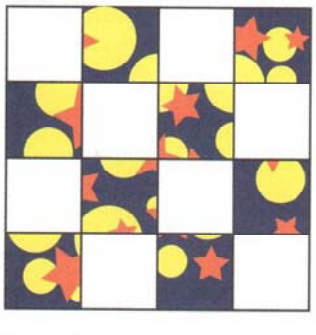
8. Look at the four balances below and find out which of the four different objects weighs the least. Assume that distance from the fulcrum (the centre of the balance) has no effect on the result.



a)  b)  c)  d) 

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





(A) 20 (B) 11 (C) 23 (D) 25

10.The length of the circumference of a circle equals the perimeter of a triangle of equal sides, and also the perimeter of a square. The areas covered by the circle, triangle, and square are c, t and s, respectively. Then,

(A) s> t > c (B) c < s > t (C) c> s > t (D) s > c > t