



The Maurya School, Palam Vihar, Gurgaon
Academic Session 2013-2014
MENTAL MATHS SHEET- CLASS - IX

NAME : _____

DATE : _____

ROLL NO. : _____

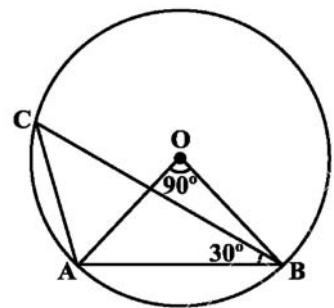
CHOOSE THE CORRECT OPTION:

1. Three angles of a quadrilateral are 75° , 90° and 75° . The fourth angle is
(a) 90° (b) 95° (c) 105° (d) 120°
2. ABCD is a rhombus such that $\angle ACB = 40^\circ$, then $\angle ADB =$
(a) 45° (b) 50° (c) 40° (d) 60°
3. Which if the following quadrilateral a rhombus?
(a) diagonals bisect each other (b) all the four sides are equal
(c) diagonals bisect opposite angles (d) one angle between the diagonals is 60° .
4. A chord of a circle of radius 7.5 cm with centre O is of length 9 cm. Find the its distance from the centre.
(a) 4 cm (b) 7 cm (c) 6 cm (d) 5 cm
5. AB is a chord of the circle with centre O and radius 13 cm. If $OM \perp AB$ and $OM = 5$ cm, find the length of the chord AB.
(a) 24 cm (b) 27 cm (c) 26 cm (d) 25 cm

6. A chord of a circle is equal to the radius of the circle. Find the angle subtended by the chord at a point on the minor arc
 (a) 150° (b) 30° (c) 60° (d) none of these
7. In a circle with centre O, AB and CD are two diameters perpendicular to each other. The length of chord AC is
 (a) 2 AB (b) $\sqrt{2}$ AB (c) $\frac{1}{2}$ AB (d) $\frac{1}{\sqrt{2}}$ AB
8. If angles A, B, C and D of the quadrilateral ABCD, taken in order, are in the ratio 3:7:6:4, then ABCD is a
 (a) rhombus (b) parallelogram (c) trapezium (d) kite

ANSWER IN DETAIL:-

1. In right sided figure, $\angle AOB = 90^\circ$ and $\angle ABC = 30^\circ$, then find $\angle CAO$



2. Construct a triangle ABC in the given space in which $BC = 5.6\text{cm}$, $\angle B = 30^\circ$ and the difference between the other two sides is 3 cm.

3. A school provides milk to the students daily in a cylindrical glass of diameter 7 cm. If the glass is filled with milk up to a height of 12 cm, find how many litres of milk are needed to serve 1600 students.
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4. If the number of hours for which a labourer works is x and y are his wages (in rupees) and $y = 2x - 1$, draw the graph of work – wages equation. From the graph, find the wages of the labourer if he works for 6 hours.

MENTAL ABILITY

- Q1: Charley has 5 shirts and 3 pairs of pants. How many different outfits with 1 shirt and 1 pair of pants can Charley make?

(a) 8 (b) 15 (c) 10 (d) 2

- Q2: Dave is meeting his friends at 7:30 PM. The average speed of the bus is 28 km/h, and he needs to travel 20 km. When is the latest time he should catch the bus?

(a) 6:50 PM (b) 6: 43 PM (c) 6:47 PM (d) 6:45 PM

- Q3: A weather forecaster said the probability of rain was 75%. How is this probability expressed as a ratio?

(a) $\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{1}{3}$ (d) $\frac{3}{4}$

Q4 There are 100 people at the concert. One fifth of the people are senior citizens. 55 out of 100 are children. What fraction of the people are not senior citizens or children?

(a) $\frac{1}{5}$

(b) $\frac{1}{4}$

(c) $\frac{1}{2}$

(d) $\frac{3}{4}$

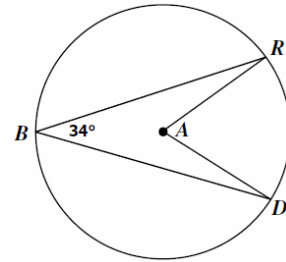
Q5 What is $m\angle DAR$ in given circle

(a) 17°

(b) 68°

(c) 34°

(d) 56°



Q6. What are the next three numbers in this sequence? 12, 9, 6, 3...

(a) 0, -2, -6

(b) 0, 3, -6

(c) 3, 0, -3

(d) None of the above

Q7. A rectangular yard measures 8 m by 6 m. What happens to the area if each dimension is doubled?

(a) It becomes four times smaller

(b) It becomes twice as large

(c) It becomes three times greater

(d) No change

Q8. A boy started from his home. After walking for 5 km towards east, he turned to his right and walked for 8 km. Then he again turned to his right and walked for 10 km... In which direction was he from his house?

(a) West

(b) South-West

(c) North

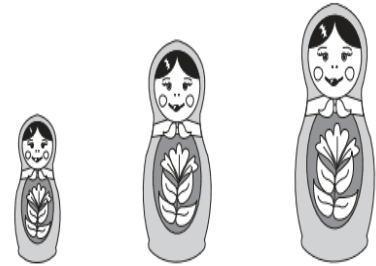
(d) North – West

ANSWER THE FOLLOWING QUESTIONS IN GIVEN SPACE:-

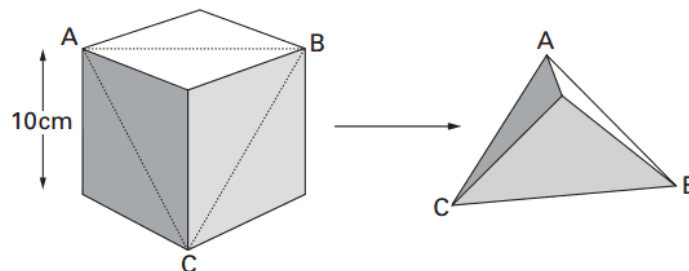
Q1. The heights of Russian dolls are in the ratio 4:6:7.

(a) In a set of dolls, the height of the middle doll is 9cm. What are the heights of the other dolls?

(b) In another set of dolls, the height of the tallest doll is 9cm. What are the heights of the other dolls?



Q2. The side length of a cube is 10cm. The cube is cut along a plane through three of the vertices to make a pyramid. Calculate the perimeter of the base, ABC, of the pyramid.



Q3. People were asked if they were considering changing what they eat. 29% of the people asked said yes. Of these, 23% said they were considering becoming vegetarian. What percentage of the people asked said they were considering becoming vegetarian?
