



VIDYA BHARATI SCHOOL

OLYMPIAD WORKSHEET - NOVEMBER 2017

GRADE: IX

SUBJECT: MATHS

Tick the correct answer for following:

- Three angles of a quadrilateral are 80° , 95° and 112° . Its fourth angle is
a) 78° b) 73° c) 85° d) 100°
- The angles of a quadrilateral are in the ratio 3:4:5:6. The smallest of these angles is
a) 45° b) 60° c) 36° d) 48°
- In which of the following figures are the diagonals equal?
a) Parallelogram b) Rhombus c) Trapezium d) Rectangle
- If the diagonals of a quadrilateral bisect each other at right angles, then the figure is a
a) Trapezium b) parallelogram c) rectangle d) rhombus
- The lengths of the diagonals of a rhombus are 16 cm and 12 cm. The length of each side of the rhombus is
a) 10 cm b) 12cm c) 9 cm d) 8 cm
- The length of each side of a rhombus is 10 cm and one of its diagonals is of length 16 cm. The length of the other diagonal is
a) 13cm b) 12 cm c) $2\sqrt{39}$ d) 6 cm
- If ABCD is a parallelogram with two adjacent angles $\angle A = \angle B$, then the parallelogram is a
a) Rhombus b) Trapezium c) rectangle d) none of these
- In a quadrilateral ABCD, if AO and BO are the bisectors of $\angle A$ and $\angle B$ respectively, $\angle C = 70^\circ$ and $\angle D = 30^\circ$. Then, $\angle AOB = ?$
a) 40° b) 50° c) 80° d) 100°
- The bisectors of any two adjacent angles of a parallelogram intersect at
a) 30° b) 45° c) 60° d) 90°
- The bisectors of the angles of a parallelogram enclose a
a) Rhombus b) square c) rectangle d) parallelogram
- The figure formed by joining the mid-points of the adjacent sides of a quadrilateral is
a) Rhombus b) square c) rectangle d) parallelogram
- If an angle of a parallelogram is two-third of its adjacent angle, the smallest angle of the parallelogram is
a) 108° b) 54° c) 72° d) 81°
- If one angle of a parallelogram is 24° less than twice the smallest angle, then the largest angle of the parallelogram is
a) 68° b) 102° c) 112° d) 136°

14. If area of a parallelogram with sides a and b is A and that of a rectangle with sides a and b is B then

- a) $A > B$ b) $A = B$ c) $A < B$ d) $A \geq B$

15. The parallel sides of a trapezium are a and b respectively. The line joining the mid-points of its non-parallel sides will be

- a) $\frac{1}{2}(a-b)$ b) $\frac{1}{2}(a+b)$ c) $\frac{2ab}{(a+b)}$ d) \sqrt{ab}

16. If $\angle A$, $\angle B$, $\angle C$ and $\angle D$ of a quadrilateral ABCD taken in order, are in the ratio 3:7:6:4, then ABCD is a

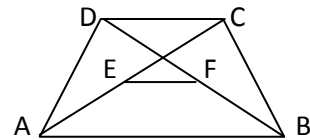
- a) Rhombus b) kite c) trapezium d) parallelogram

17. Which of the following is not true for a parallelogram?

- a) Opposite sides are equal b) opposite angles are equal
 b) Opposite angles are bisected by the diagonals. d) Diagonals bisect each other.

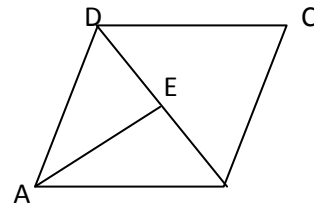
18. In a trapezium ABCD if E and F be the mid-points of the diagonals AC and BD respectively. Then EF = ?

- a) $\frac{1}{2}(AB)$ b) $\frac{1}{2}(CD)$ c) $\frac{1}{2}(AB+CD)$ d) $\frac{1}{2}(AB-CD)$



19. In the given figure, ABCD is a parallelogram, M is the mid-point of BD and BD bisects $\angle B$ as well as $\angle D$. Then, $\angle AMB = ?$

- a) 45° b) 60° c) 90° d) 30°



20. In the given figure, ABCD is a parallelogram and E is the mid-point of BC. Also, DE and AB when produced meet at F. Then,

- a) $AF = \frac{3}{2}(AB)$ b) $AF = 2AB$ c) $AF = 3AB$ d) $AF^2 = 2AB^2$

