



MATHS

BOOKS - RD SHARMA MATHS (HINGLISH)

UNDERSTANDING PHASE-II (QUADRILATERALS)

Others

1. The angles of a quadrilateral are respectively 100° , 98° , 92° Find the fourth angle.



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2. In a quadrilateral $ABCD$, the angles A , B , C and D are in the ratio $1:2:3:4$. Find the measure of each angle of the quadrilateral.



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3. The measures of two adjacent angles of a quadrilateral are 125° and 35° and the other two angles are equal. Find the measure of each of the equal angles.



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4. One angle of a quadrilateral is 180° and the remaining three angles are equal. Find the three equal angles.



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5. Find the number of sides of a regular polygon whose each exterior angle has a measure of 45° .



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6. How many sides does a regular polygon have if the measure of an exterior angle is 24° ?



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7. What is the measure of each angle of a regular hexagon?



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8. Let the measure of each interior angle be x° . Then, the measure of each exterior angle is $(180 - x)^\circ$.



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9. The interior angle of a regular polygon is 156° . Find the number of sides of the polygon.



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10. An interior angle of a regular polygon has a measure of 108° . What type of polygon is it?



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11. Prove that one interior angle of pentagon is three times the exterior angle of decagon.



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12. Two regular polygons are such that the ratio between their number of sides is 1:2 and the ratio of measures of their interior angles is 3:4. Find the number of sides of each polygon.



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13. The exterior angle of a regular polygon is one-third of its interior angle. How many sides has the polygon?



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14. $ABCDE$ is a regular pentagon. The bisector of $\angle A$ of the pentagon meets the side CD in M . Show that $\angle AMC = 90^\circ$ In pentagon $ABCDE$



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15. In quadrilateral $ABCD$, AO and BO are the bisectors of $\angle A$ and $\angle B$ respectively. Prove that $\angle AOB = \frac{1}{2}(\angle C + \angle D)$.

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16. $ABCDE$ is a regular pentagon and bisector of $\angle BAE$ meets CD at M . If bisector of $\angle BCD$ meets AM at P , find $\angle CPM$.

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17. Define the following terms:

(i) Quadrilateral

(ii) Convex Quadrilateral



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18. In a quadrilateral, define each of the following:

(i) Sides

(ii) Vertices

(iii) Angles

(iv) Diagonals

(v) Adjacent angles

(vi) Opposite Sides

(vii) Opposite sides

(viii) Opposite angles

(ix) Interior

(x) Exterior



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19. The angles of a quadrilateral are 110° , 72° , 55° and x° . Find the value of x° .



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20. The three angles of a quadrilateral are respectively equal to 100° , 98° and 92° . Find its fourth angle.



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21. A quadrilateral has three acute angles each measures 80° . What is the measure of the fourth angle?

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22. A quadrilateral has all its four angles of the same measure. What is the measure of each?

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23. Two angles of a quadrilateral are of measure 65° and the other two angles are equal. What is the measure of each of these two angles?



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24. Three angles of a quadrilateral are equal. Fourth angle is of measure 150° . What is the measure of equal angles.

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25. The angles of a quadrilateral are in the ratio 3:5:9:13. Find all the angles of the quadrilateral.

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26. If the sum of the two angles of a quadrilateral is 180°

What is the sum of the remaining two angles?



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27. theorem 1 (Exterior angle sum property) if the sides of quadrilateral are produced in order the sum of four exterior angles so formed is 360° .



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28. In a quadrilateral $ABCD$, the angles A , B , C and D are in the ratio $1:2:4:5$. Find the measure of each angle of the quadrilateral.



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29. In a quadrilateral $ABCD$, CO and DO are the bisectors of $\angle C$ and $\angle D$ respectively. Prove that $\angle COD = \frac{1}{2}(\angle A + \angle B)$.



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30. Find the number of sides of a regular polygon, when each of its angles has a measure: 160° (ii) 135° (iii) 175° 162° (v) 150°



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31. Find the number of degree in each exterior angle of a regular pentagon.



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32. The measure of angles of a hexagon are x° , $(x - 5)^\circ$, $(x - 5)^\circ$, $(2x - 5)^\circ$, $(2x - 5)^\circ$, $(2x + 20)^\circ$

Find the value of x



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33. In a convex hexagon, prove that the sum of all interior angle is equal to twice the sum of its exterior angles formed by producing the sides in the same order.



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34. The sum of the interior angles of a polygon is three times the sum of its exterior angles. Determine the number of sides of the polygon.



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35. Determine the number of sides of a polygon whose exterior and interior angles are in the ratio 1:5.



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