PSBB LEARNING LEADERSHIP ACADEMY
BANGALORE

CLASS 8 MATHEMATICS WA -4 /16/07/2021

UNDERSTANDING QUADRILATERALS - S olution

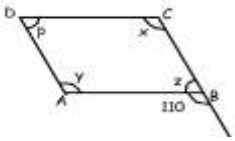
Complete the following statements with appropriate words.

1. A diagonal a parallelogram divides it into two **congruent** triangles
2. An angle of a rhombus is 40° more than its adjacent angle. Then this angle **is 110°**
3. The number of sides of regular polygon, where each exterior angle has a measure of 36° **is 10**
4. A rectangle whose adjacent sides are equal becomes **a Square**
   (a) If three angles of a quadrilateral are each equal to 75°, then the 4th angle is **b)135°**
5. What is the maximum number of obtuse angles that a quadrilateral can have? **(c) 3**
6. If PQRS is a parallelogram then , $\angle P - \angle R$ is **[c] 0°**
7. If the number of sides of a polygon increases infinitely then it will be a circle [true].
8. Identify the given figure and the lines interior of the polygon **[Decagon, diagonals]**

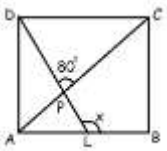
9. The interior angle of a regular polygon is 162°. Find the number of sides of the polygon**. 20sided polygon**

10. The sum of 2 angles of a quadrilateral is 160°. the other 2 angles are in the ratio 2: 3. Find the angles.
    Solution ; 160°+2x+3x=360°
    Angles are 80° and 120°

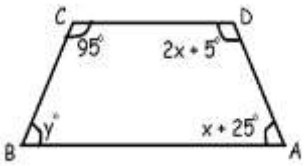
11. Find the unknown angles. z=p =70° , x=y=110°



12. Given ABCD is a square. Find x.
    AC is a diagonal which bisects $\angle A$, $\therefore\ \angle CAB = 45°$
    $\angle APL = 80°$ [Vertically opposite angles are equal]
    $\angle ALP = 55°$ [By angle sum property of triangle]
    $\angle DLB = x = 180° - 55°$
    $x = 125°$



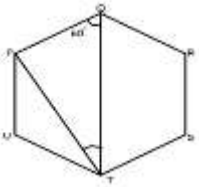
13. Given ABCD is trapezium, find the values of x and y
    $\therefore AB \parallel DC$ *cointerior angles are supplementary*
    $\angle CBA + \angle BCD = 180°$
    $95° + y = 180°$
    $\angle CDA + \angle DAB = 180°$
    $2x + 5° + x + 25° = 180°$
    $\therefore x = 50°$, $y = 85°$



14. In the given figure PQRSTUV is a regular hexagon. Find $\angle PTQ$.
    PQTU is an isosceles trapezium , thus
    $\therefore \angle UPQ + \angle PQT = 180°$
    $\therefore \angle PUT = \angle UPQ = 120°$

PUT is an isosceles triangle , thus $\angle UPT = \angle UTP = 30°$

$\therefore \angle PTQ = 30°$



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Did you know :) Match the names

11 sided figure

12 sided figure

13 sided figure……

Tridecagon, Pentadecagon,
Hendecagon , octodecagon
……..