Circles

Work sheet-3

Q1. Fill in the blanks

1. The angle subtended by an arc at the centre is _____ the angle subtended by it at any point on the remaining part of the circle.
2. The angle subtended in a semicircle is a _____angle.
3. Angles in the same segment of a circle are _____.
4. If the line segment joining two points subtends equal angles at two other points lying on the same side of the line containing the line segment, the four points lie on a _____.
5. The opposite angles of a cyclic quadrilateral are _____.
6. A cyclic parallelogram is a _____. (rhombus, rectangle, square)

Q2. Answer each of the following questions.

1. ABCD is a cyclic quadrilateral whose diagonals AC and BD intersect at the centre of the circle passing through the vertices A, B, C and D. What is the particular shape of the quadrilateral?
2. ABCD is a cyclic parallelogram. If diagonal AC is 13cm long, what is the length of diagonal BD?
3. ABCD is a cyclic parallelogram. Find $\angle ABC$.
4. ABCD is a cyclic quadrilateral. If $\angle ABC=70°$, then find $\angle ADC$.
5. Prove that equal chords of a circle are equidistant from the centre of the circle.
6. If O is the centre of a circle and A is any point on the minor arc BC of the circle, prove that $\angle BAC - \angle OBC = 90^{o}$.

Exercise 10.5

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