

## **Summary of geometry**

### **for prep one (1<sup>st</sup> term)**

- 1) The sum of measures of two complementary angles equals 90
- 2) The sum of measures of two supplementary angles equals 180
- 3) The measure of the straight angle is 180
- 4) The measure of the right angle is 90
- 5) The two adjacent angles formed by a straight line and a ray with a starting point on this straight line are supplementary
- 6) The outer sides of the two supplementary adjacent angles are on the same straight line
- 7) If the two adjacent angles are not supplementary, then their outer sides are not on the same straight line
- 8) If the two adjacent angles are complementary, then their outer sides are perpendicular
- 9) The sum of measures of the accumulative angles at a point = 360
- 10) The two adjacent angles in which the two outer sides are on the same straight line are supplementary
- 11) If two straight lines intersect, then each two vertically opposite angles are equal in measure
- 12) In the right angled triangle, the area of the square drawn on its hypotenuse is equal to the sum of the areas of the squares drawn on the other two sides
- 13) The acute angle is supplemented by an obtuse angle
- 14) The right angle is supplemented by a right angle
- 15) If two angles are supplementary, then one of them is an acute and the other is an obtuse or both of them are right angles.

**16) Two triangles are congruent :**

**1- if two sides and the included angle of the first triangle are congruent to their corresponding from the other triangle**

**2- if two angles and the included side of the first triangle are congruent to their corresponding from the other triangle**

**3- If each side of the first triangle is congruent to its corresponding from the other triangle**

**4- The two right angled triangle are congruent if the hypotenuse and a side of one triangle are congruent to their corresponding from the other triangle**

**17) If a straight line intersects two parallel straight lines then each two alternate angles are equal in measure**

**18) If a straight line intersects two parallel straight lines then each two corresponding angles are equal in measure**

**19) If a straight line intersects two parallel straight lines then each two interior angles at one side of the transversal are supplementary**

**20) If a straight line intersect two straight lines and two alternate angles are equal in measure then the two lines are parallel**

**21) If a straight line intersect two straight lines and two corresponding angles are equal in measure, then the two lines are parallel**

**22) If a straight line intersect two straight lines and two interior angles at one side of the transversal are supplementary , then the two lines are parallel**

**23) If two straight lines are parallel to a third straight line , then the two straight lines are parallel**

**24) The two perpendicular straight lines to a third line are parallel**

25) The perpendicular straight line to one of two parallel straight lines is perpendicular to the other

26) If parallel straight lines divide a straight line into segments of equal lengths, then they divide any other straight line into segments of equal lengths.

27) The supplements of one angle are equal in measures

28) The complements of one angle are equal in measures

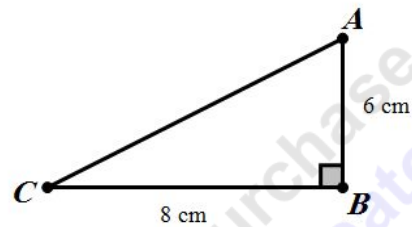
29) The acute angle complements an acute angle

30) If the triangle ABC is right-angled triangle at B, then

$$(AC)^2 = (AB)^2 + (BC)^2$$

$$(AB)^2 = (AC)^2 - (BC)^2$$

$$(BC)^2 = (AC)^2 - (AB)^2$$



Best wishes

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