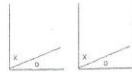


# GEOMETRY THEOREMS...

## • ANGLE THEOREMS:



(OAT) Opposite Angle Theorem → If two lines intersect then the opposite angles are equal.



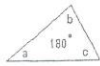
(CAT) Complementary Angle Theorem → If two angles are equal, then their complements are equal.

*Note: Complementary angles sum to  $90^\circ$ .*



(SAT) Supplementary Angle Theorem → If two angles are equal, then their supplements are equal.

*Note: Supplementary angles sum to  $180^\circ$ .*



(SATT) Sum of the Angles of a Triangle Theorem → The sum of the interior angles of a triangle is  $180^\circ$ .

*Note: When two angles of one triangle are respectively equal to two angles of another triangle, the third angles are equal.*



(ITT) Isosceles Triangle Theorem → The angles opposite the equal sides are equal.

*Note: Isosceles triangles have 2 equal sides.*



(EAT) Exterior Angle Theorem → An exterior angle of a triangle is equal to the sum of the interior and non-adjacent angles.

## • TRANSVERSAL PARALLEL THEOREMS:



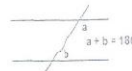
(AIA) Alternate Interior Angles → When a transversal intersects a set of parallel lines, the alternate interior angles are equal.

*Note: "Z" pattern*



(CA) Corresponding Angles → When a transversal intersects a set of parallel lines, the corresponding angles are equal.

*Note: "F" pattern*



(CIA) Co-Interior Angles → When a transversal intersects a set of parallel lines, the co-interior angles sum to  $180^\circ$ .

*Note: "C" pattern*

Name: \_\_\_\_\_

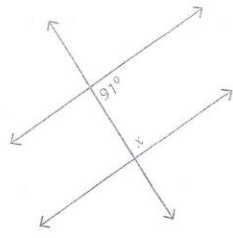
Score: \_\_\_\_\_

### Alternate & Same Side Angles

Easy: 51

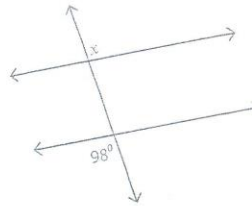
Find the value of  $x$ .

1)



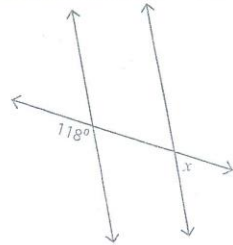
$x =$  \_\_\_\_\_

2)



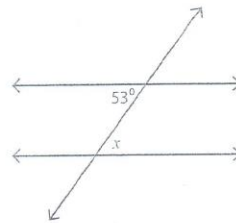
$x =$  \_\_\_\_\_

3)



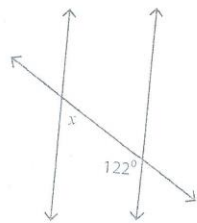
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4)



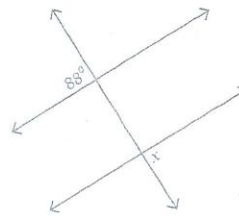
$x =$  \_\_\_\_\_

5)



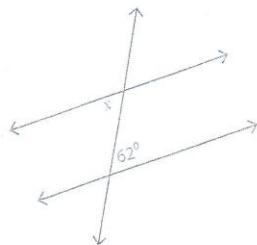
$x =$  \_\_\_\_\_

6)



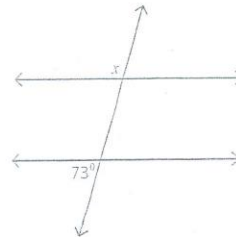
$x =$  \_\_\_\_\_

7)



$x =$  \_\_\_\_\_

8)



$x =$  \_\_\_\_\_

Name : \_\_\_\_\_

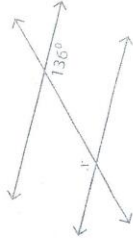
Score : \_\_\_\_\_

### Angles in Transversal

Easy: S1

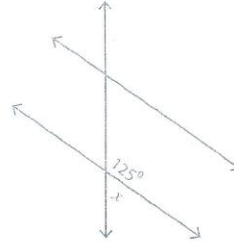
Find the value of  $x$ .

1)



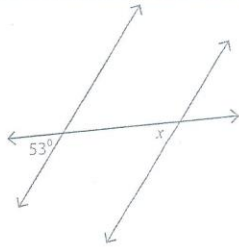
$x =$  \_\_\_\_\_

2)



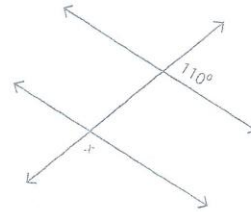
$x =$  \_\_\_\_\_

3)



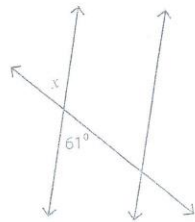
$x =$  \_\_\_\_\_

4)



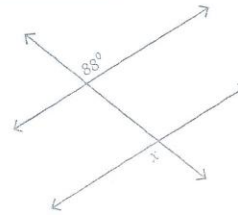
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5)



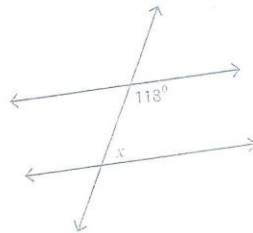
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6)



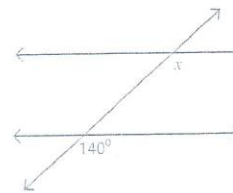
$x =$  \_\_\_\_\_

7)



$x =$  \_\_\_\_\_



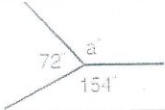
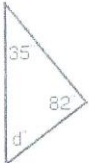


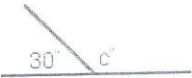
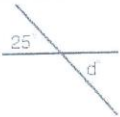

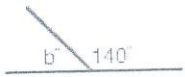
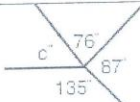


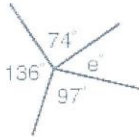
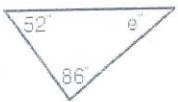
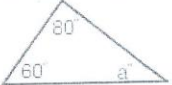

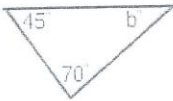
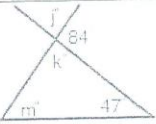

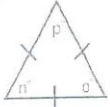
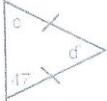
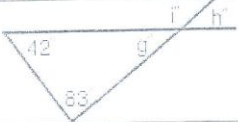
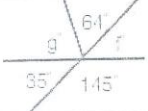
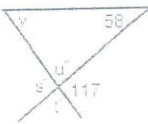
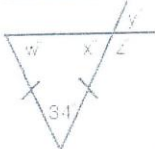
8)



$x =$  \_\_\_\_\_

## Basic Angles Rules Practice

For each question find the missing angle and give a reason for your answer.  
(Don't forget to show your working!)

1.		2.		3.	
4.		5.		6.	
7.		8.		9.	
10.		11.		12.	
13.		14.		15.	
16.		17.		18.	
<b>Challenge Questions</b> Give reasons for every angle!					
19.		20.		21.	
22.		23.		24.	
25.		26.		27.	