

Euclid's Game

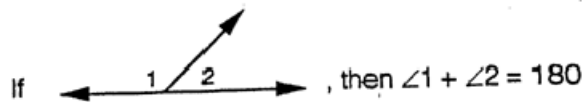
Undefined terms: Point, line, and plane

Some Defined Terms:

Midpoint	Supp $\angle$ 's	Skew Lines
Angle bisector	Comp $\angle$ 's	Corres. $\angle$ 's
Perpendicular lines	Adj. $\angle$ 's	Alt. Int. $\angle$ 's
Parallel lines	Vert. $\angle$ 's	Alt. Ext. $\angle$ 's

Some Postulates and Properties:

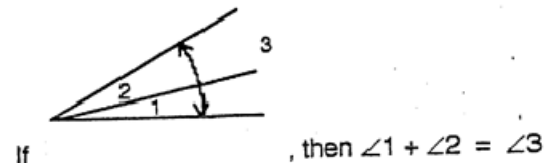
Linear Pair Postulate:



Substitution Property:

If  $x + b = c$  and  $x = y$ , then  $y + b = c$

Angle Addition Postulate:



Addition Property:

If  $a = b$ , then  $a + c = b + c$  (for any number  $c$ )

Subtraction Property:

If  $a = b$ , then  $a - c = b - c$  (for any number  $c$ )

Multiplication Property:

If  $a = b$ , then  $c \cdot a = c \cdot b$  (for any number  $c$ )

Division Property:

For  $c \neq 0$ , if  $a = b$ , then  $\frac{a}{c} = \frac{b}{c}$

Reflexive Property:

$\angle A = \angle A$     an angle or a segment is  
 $BC = BC$     equal to itself

**Defined Terms**



3.12

Name the following terms being defined:

TERM	DEFINITION	SKETCH
1. _____	Two angles that sum to $90^\circ$	none
2. _____	Two angles that sum to $180^\circ$	none
3. _____	Two angles that share a common vertex and a common side but have no interior points in common.	
4. _____	Segments that have the same measure.	none
5. _____	An angle with a measure of $90^\circ$	none
6. _____	A ray that divides an angle into two equal adjacent angles.	
7. _____	A point that divides a segment into two equal segments.	
8. _____	Two lines in the same plane that do not intersect.	

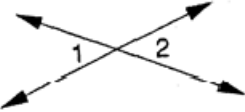
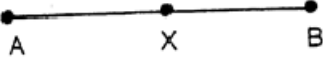
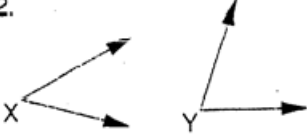
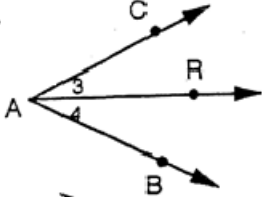
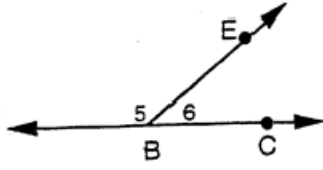


TERM	DEFINITION	SKETCH
9. _____	Two lines that do not intersect and are not coplanar.	
10. _____	Two lines that meet to form right angles.	
11. _____	Two non-adjacent angles on the same side of a transversal, one interior and one exterior.	
12. _____	Two non-adjacent interior angles on opposite sides of the transversal.	
13. _____	Two non-adjacent exterior angles on opposite sides of the transversal.	
14. _____	Two non-adjacent interior angles on the same side of the transversal.	

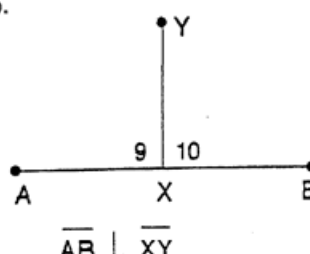
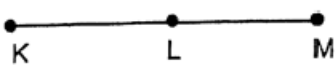
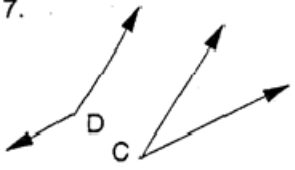
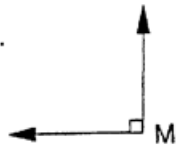
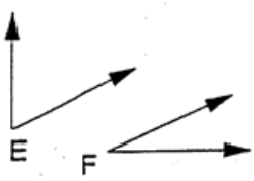
# Making Deductions

3.14

Use definitions or postulates in order to make deductions from the diagram and information given. Then justify your deduction with an if-then statement.

	Deduction	Justification
<p>Ex.</p> 	<p><math>\angle 1</math> and <math>\angle 2</math> are vertical angles</p>	<p>If two lines intersect, then the angles across from each other are vertical angles.</p>
<p>1.</p>  <p>X is the midpoint of <math>\overline{AB}</math></p>		
<p>2.</p>  <p><math>m\angle X + m\angle Y = 90^\circ</math></p>		
<p>3.</p>  <p><math>\overrightarrow{AR}</math> bisects <math>\angle CAB</math></p>		
<p>4.</p> 		



	Deduction	Justification
<p>5.</p>  <p><math>\overline{AB} \perp \overline{XY}</math></p>		
<p>6.</p>  <p><math>KL = LM</math></p>		
<p>7.</p>  <p><math>\angle C</math> and <math>\angle D</math> are supplementary</p>		
<p>8.</p>  <p><math>\angle M</math> is a right angle</p>		
<p>9.</p>  <p><math>\angle E</math> and <math>\angle F</math> are complementary</p>		