**Lines, Triangles and Angles**

**Quiz Study Guide**

**Angles:**

**·You should be able to:**

*  **Classify angles as acute, obtuse, right, adjacent, vertical, supplementary or complimentary and use all names that apply**



**Ex: Ex:**

∠*ABC* = \_\_obtuse\_\_\_\_\_\_\_\_\_\_\_\_ ∠*FEG* = \_\_\_\_Right\_\_\_\_\_\_\_\_\_\_

∠*ABD* = \_\_obtuse\_\_\_\_\_\_\_\_\_\_\_\_ ∠*FEH* = \_\_\_\_acute\_\_\_\_\_\_\_\_\_\_

∠*CBD* = \_\_\_\_\_acute\_\_\_\_\_\_\_\_\_\_ ∠*HEG* = \_\_\_\_acute\_\_\_\_\_\_\_\_\_\_\_

∠*ABC* and ∠*CBD* = \_\_adjacent\_\_\_\_\_\_\_\_\_\_ ∠*FEH* and ∠*HEG* = \_\_adjacent\_\_\_\_\_\_\_\_\_

 \_\_\_\_complimentary\_\_\_\_\_\_\_



**Ex:** ∠*IJL* = \_obtuse\_\_\_\_\_\_\_\_\_\_\_\_

∠*IJK* = \_\_\_straight\_\_\_\_\_\_\_\_\_\_\_

∠*LJK* = \_\_\_acute\_\_\_\_\_\_\_\_\_\_\_\_

∠*LJI* and ∠*KJL* = \_\_adjacent\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_supplementary\_\_\_\_\_\_\_\_\_\_\_

* Identify the vertices of the previous three examples.
1. \_\_\_B\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_E\_\_\_\_\_\_\_\_\_
3. \_\_\_\_J\_\_\_\_\_\_\_\_\_

**·You should be able to use angle relationships to find missing angle measures.**

**Ex:** The measure of angle 1 is 30°. Angles 1 and 2 are complimentary. Find the measure of angle 2.

 60° (Because 90-30 is 60)

**Ex:** The measure of angle 1 is 125°. Angles 1 and 2 are supplementary. Find the measure of angle 2.

 55° (because 180-125 is 55°)

**Ex:** Angles 1 and 2 are vertical. The measure of angle 1 is 45°. Find the measure of angle 2.

 45° (Because vertical angles are the same size)

**Use the given information to find the value of *x*.**

**Ex: Ex:**

**Since they form a straight line they are Since they form a right angle they are supplementary they add up to 180°. complimentary and add up to 90°.**

3*x* + *x* + 20 = 180 5*x* + *x* – 30 = 90

 4*x* + 20 = 180 6*x* – 30 = 90

 4*x* = 160 6*x* = 120

 *x* = 40 *x* = 20



**Ex:** 170 – *x* = *x* – 30

 +*x* +*x*

170 = 2*x* – 30

 +30 +30

 200 = 2*x*

 100 = *x*

**Angles formed by a Transversal:**

**·You should be able to identify angle pairs formed by a transversal intersecting parallel lines and use their relationships to find missing angle measures.**

**Ex:** Which two lines are parallel? \_\_\_\_*r* and *s*\_\_\_\_\_\_ **Ex:** Which line is the transversal? \_\_\_*q*\_\_\_\_\_\_

**Ex:** Give one pair of corresponding angles: \_1 & 5, or 4 & 7, 2 and 6 or 3 and 8\_\_\_\_\_

**Ex:** Give one pair of vertical angles: \_1 and 3, 2 and 4, 5 and 8 or 6 and 7\_\_\_\_\_\_\_\_\_

**Ex:** Give one pair of alternate interior angles: \_\_3 and 5 or 4 and 6\_\_\_\_\_\_\_\_

**Ex:** Give one pair of supplementary angles: \_\_1 and 4, 1 and 2, 2 and 3, 3 and 4, 5 and 6, 5 and 7, 6 and 8, or 8 and 7 \_\_\_

**Ex:** Give one pair of alternate exterior angles: \_\_\_2 and 7 or 1 and 8\_\_\_\_\_\_\_

**Find the missing angle measures. Give the reason you know.**

**Ex:** Find *m*∠1 if *m*∠2 is 50º. **Ex:** Find *m*∠8 if *m*∠1 is 140°.

Measure: \_\_\_130°\_\_\_\_\_\_\_\_Measure: \_140°\_\_\_\_\_\_\_\_\_\_

Reason: \_\_\_\_Supplementary\_\_\_\_\_\_\_\_Reason: \_\_Alternate Exterior\_\_\_\_\_\_\_\_\_\_\_\_

**Ex:** Find *m*∠6 if the *m*∠4 is 30°. **Ex:** Find *m*∠2 if *m*∠6 is 60°.

Measure: \_\_30°\_\_\_\_\_\_\_\_\_Measure: \_\_60°\_\_\_\_\_\_\_\_\_

Reason: \_\_\_Alternate Interior\_\_\_\_\_\_\_Reason: \_\_\_\_Corresponding\_\_\_\_\_\_\_\_\_

**Ex:** Find *m*∠3 if the *m*∠1 is 92°.

Measure: \_\_\_\_92°\_\_\_\_\_\_\_

Reason: \_\_\_\_\_Vertical Angles\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Triangles:**

**· You should be able to classify a triangle by its sides and angles.**

**· You should be able to find missing measures in triangles.**

**Ex:** A triangle with no equal sides is called: \_\_\_\_scalene\_\_\_\_\_\_\_\_\_\_

**Ex:** A triangle with all equal sides is called: \_\_\_\_equilateral\_\_\_\_\_\_\_\_\_\_

**Ex:** A triangle with 2 equal sides is called: \_\_\_\_\_\_isosceles\_\_\_\_\_\_\_\_\_\_

**Ex:**  A triangle with 1 \_\_obtuse\_\_\_\_\_\_\_\_\_ angle is called: \_\_\_\_an obtuse triangle\_\_\_\_\_\_\_\_\_\_\_\_

**Ex:** A triangle with 1 \_\_\_right\_\_\_\_\_\_\_\_\_ angle is called: \_\_\_\_\_a right triangle\_\_\_\_\_\_\_\_\_\_\_

**Ex:** A triangle with 3 \_\_\_acute\_\_\_\_\_\_\_\_\_\_ angles is called: \_\_\_\_an acute triangle\_\_\_\_\_\_\_\_\_\_\_

**Ex:** The number of sides equal in a triangle is also the number of \_\_\_angles\_\_\_\_\_\_\_\_ that are equal. For example, if a triangle is isosceles, then it would be have \_2\_\_\_\_\_\_ equal angles.

**Find the missing angle measure:**



**Ex: Ex:**

  **Find *x* first:**

 2*x* + 96 + *x* = 180 50 + 70 + 3*x* = 180

 3*x* + 96 = 180 120 + 3*x* = 180

 3*x* = 84 3*x* = 60

 *x* = 28 *x =* 20

**Then find *y* (which is supplementary to the 3*x* angle which now equals 60.**

**So *y* = 120 since that is 180 – 60**