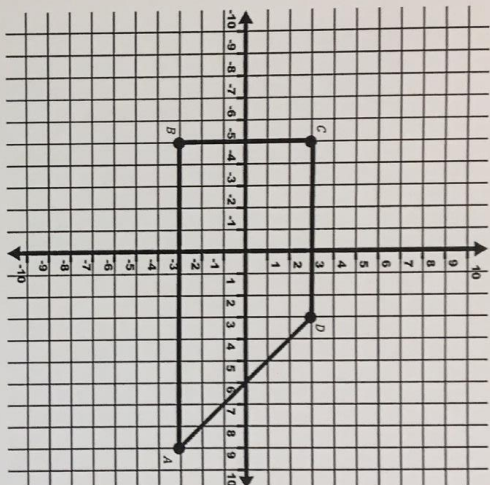


Name: KEY

Geometry w/Trig: Unit 1 Review

**Station 1: Distance & Midpoint**

Mrs. DINUZZO was excited to hear about a new dog park opening in her town so she could bring her dog Chewie. A plan for the dog park is shown on the coordinate plane. Answer the following questions about the dog park.



a. How much fencing is needed to fence the dog park?

$28 + 6\sqrt{2}$  ft

b. Trashcans will be placed halfway between B and C and halfway between D and B. What are the coordinates of the two trashcans?

Btwn B & C =  $(-5, 0)$

← midpoint

Btwn D & B =  $(-1, 0)$

c. Suppose  $\overline{D}$  is halfway between A and the bathroom. What are the coordinates of the bathroom?

↗ midpoint

Bathroom is at  $(-3, 9)$

← missing endpoint

d. There will be doors to get in and out of the dog park. They are located where  $\overline{AD}$  is divided into a 1:2 ratio. Where are the two doors located?

3 parts

$(7, -1)$  and  $(5, 1)$

Name: KEY

Geometry w/Trig: Unit 1 Review

**Station 2: Translating Words into Equations**

1) Find the measures of two supplementary angles if the measure of one angle is thirty-six less than the measure of the other angle.

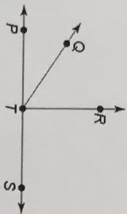
other  $\angle$ :  $X$       other  $\angle = 108^\circ$   
one  $\angle$ :  $X - 36$       one  $\angle = 72^\circ$

2) Find the measures of two complementary angles if the measure of the larger angle is 12 more than twice the measure of the smaller angle.

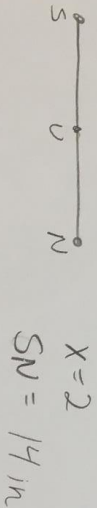
Smaller  $\angle = X$       smaller  $\angle = 26^\circ$   
larger  $\angle = 2X + 12$       larger  $\angle = 64^\circ$

3)  $\overline{TQ}$  bisects  $\angle PTR$ ,  $m\angle PTQ = (3y - 83)^\circ$  and  $m\angle QTR = y^\circ$ . Determine if  $\angle PTR$  is a right angle.

$Y = 44$        $\angle PTR$  is not a right  $\angle$   
 $m\angle PTQ = 44^\circ$       because  
 $m\angle QTR = 44^\circ$       it is not  $90^\circ$ , it is  $88^\circ$



4)  $U$  is the midpoint of  $\overline{SN}$ . If  $SU = 4x + 6$ , and  $UN = (11x - 15)$  in, find  $SU$ . (Draw and label a diagram first!)



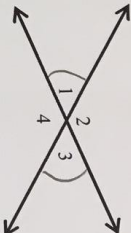
**Station 3: Vocabulary, Notation & Reading Diagrams**

1) Check all that apply: Which pairs of angles below are adjacent angles?



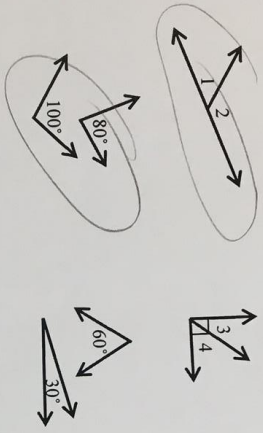
- $\angle 1$  and  $\angle 3$
- $\angle AVC$  and  $\angle BVC$
- $\angle 1$  and  $\angle 2$
- $\angle AVC$  and  $\angle CVD$

2) Use the diagram below to answer the following:



- a) If  $m\angle 3 = 55^\circ$ , which angle also measures  $55^\circ$ ?  $\angle 1$
- b) Mark the diagram to show that these two angles are congruent.

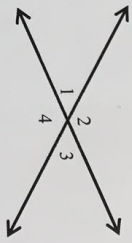
3) Circle 2 diagrams that show supplementary angles:



5) Circle all the situations that describe complementary angles:

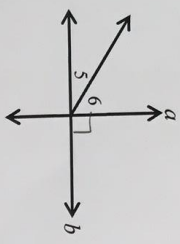
- 1 right angle
- 2 angles measuring  $30^\circ$  and  $150^\circ$
- 2 angles that form a right angle
- 2 angles measuring  $10^\circ$  and  $80^\circ$
- 2 angles that form a linear pair

4) Given  $m\angle 3 = 55^\circ$ , answer the following:



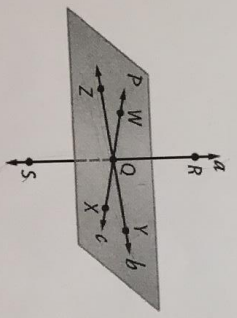
- a) What is  $m\angle 2$ ?  $125^\circ$
- b) What is  $m\angle 4$ ?  $125^\circ$

6) Use the diagram below to answer the following.



- a) Given that  $a \perp b$ . Mark the diagram to show this.
- b) If  $m\angle 5 = 40^\circ$ , what is  $m\angle 6$ ?  $50^\circ$

Use the diagram below to answer #7-12.



- 7. What is the intersection of line a and line b? Q
- 8. What is another name for plane P? Plane WZY
- 9. Name a pair of opposite rays.  $\vec{QW}$  &  $\vec{QZ}$
- 10. What is another name for line c?  $\vec{WX}$
- 11. Name another point coplanar to W, Q, and Y. Z, X
- 12. Name the intersection of plane P and line a? Q

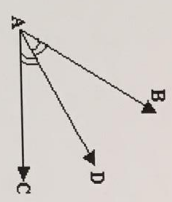
Name: KEY

**Station 4: Finding Missing Values**

Find each missing variable and/or angle measure by writing and solving an equation.

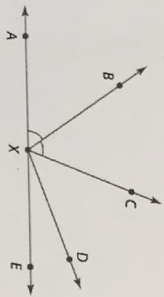
1. Use the diagram to the right to find the  $m\angle CAB$  given  $m\angle BAD = (3x + 15)^\circ$  and  $m\angle CAD = (6x - 9)^\circ$ .

$x = 8$   
 $m\angle CAB = 78^\circ$



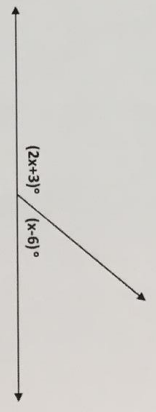
2. Use the diagram to the right. Given  $m\angle AXC = (8x - 7)^\circ$  and  $\angle AXB = (3x + 10)^\circ$ , find  $m\angle AXC$ .

$x = 13.5$   
 $m\angle AXC = 101^\circ$



3. a. Use the diagram to the right to find the value of  $x$ .

$x = 61$



- b. Explain what angle relationship you used in order to complete part a.

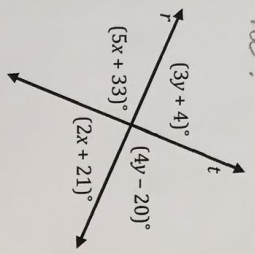
The angles form a linear pair which means they are supplementary. The measures of supp.  $\angle$ s have a sum of 180.

4. a. Use the diagram to the right to find the value of  $x$  and  $y$ .

$x = 18$   
 $y = 28$

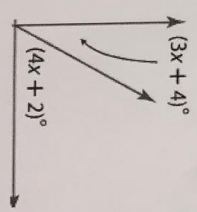
b. Are the lines perpendicular? Explain.

No, the angles are not right angles.



5. Find the value of  $x$  that will make the two angles complementary.

$x = 12$

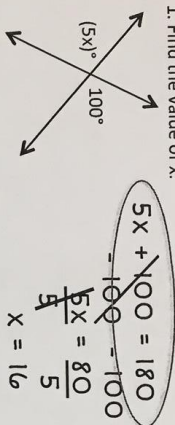


Name: KEY

**Station 5: Angle Relationships Error Analysis**

Each of the problems below was solved incorrectly. For each problem, circle the mistake in the work/answer, explain what the mistake is, and find the correct answer.

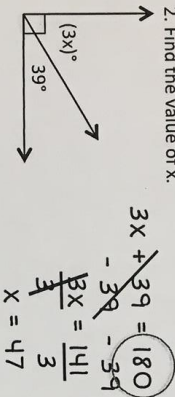
1. Find the value of x.



Explain the mistake: \_\_\_\_\_  
The angles are vertical so they are equal to each other. 5x should be set equal to 100.

Find the correct answer:  
x = 20

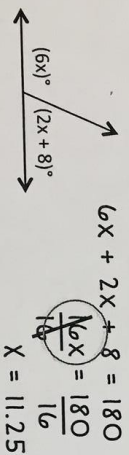
2. Find the value of x.



Explain the mistake: \_\_\_\_\_  
These angles are complementary – they add to 90°, not 180°.

Find the correct answer:  
x = 17

3. Find the value of x.



Explain the mistake: \_\_\_\_\_  
You can't combine 6x, 2x, and 8 to get 16x. Only 6x and 2x are like terms.

Find the correct answer:  
x = 21.5

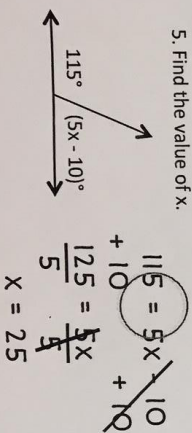
4. An angle measures 47°. What is the measure of its supplement?

$$90 - 47 = 43^\circ$$

Explain the mistake: \_\_\_\_\_  
Supplementary angles add to 180°, so 47 should be subtracted from 180.

Find the correct answer:  
133°

5. Find the value of x.



Explain the mistake: \_\_\_\_\_  
The angles are not equal so they should not be set equal to each other. Together they add to 180°.

Find the correct answer:  
x = 15