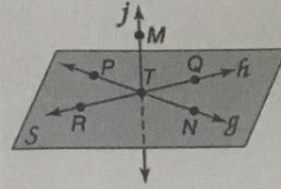


Name KEY Date \_\_\_\_\_ Period \_\_\_\_\_ Geo. w. Trig.

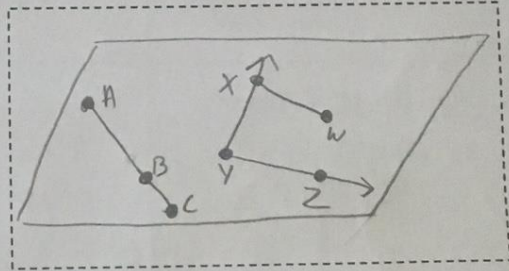
**Station 1: Vocabulary and Notation**

Use the figure to the right to answer the following questions.



1. What is another name for line  $h$ ?  $\overleftrightarrow{RQ}, \overleftrightarrow{TQ}$
2. Name the intersection of lines  $h$  and  $g$ .  $T$
3. Which is not another way to name plane  $PTQ$ ? collinear  
 A) plane  $S$       B) plane  $RTQ$       C) plane  $PRT$       D) plane  $NRP$
4. Create a diagram in the space provided using the given information.

- a) Draw a plane.
- b) Draw an angle in the plane. Label the angle  $XYZ$ .
- c) Draw point  $W$  in the interior of  $\angle XYZ$ .
- d) Draw  $WX$ .
- e) Draw points  $A, B$  and  $C$  in the exterior of  $\angle XYZ$  so that  $B$  is between  $A$  and  $C$ .
- f) Name the plane. Plane  $AXW$

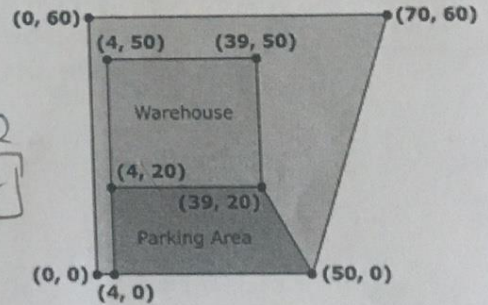


Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_ Geo. w. Trig.

**Station 2: Distance Formula**

Luke purchased a warehouse on a plot of land for his business. The figure represents a plan of the land showing the location of the warehouse and parking area. The coordinates represent points on a rectangular grid with units in feet.

**Part A:** What is the perimeter of the plot of land? Express your answer to the nearest tenth of a foot.



$$\begin{aligned}
 & \sqrt{(70-0)^2 + (60-0)^2} \\
 &= \sqrt{70^2 + 60^2} \\
 &= \sqrt{4900 + 3600} = \sqrt{8500} \approx 92.2
 \end{aligned}$$

$$\begin{aligned}
 & 70 + 60 + 50 + 63.2 \\
 &= \boxed{243.2 \text{ ft}}
 \end{aligned}$$

**Part B:** Luke is planning to put a fence along two interior sides of the parking area. The sides are represented in the plan by the legs of the trapezoid. What is the total length of fence needed? Express your answer to the nearest tenth of a foot.

$$\begin{aligned}
 & \sqrt{(50-39)^2 + (0-20)^2} \\
 &= \sqrt{11^2 + (-20)^2} \\
 &= \sqrt{121 + 400} = \sqrt{521} \approx 22.8
 \end{aligned}$$

$$22.8 + 20 = \boxed{42.8 \text{ ft}}$$



Name KEY

Date \_\_\_\_\_

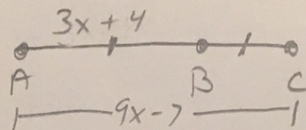
Period \_\_\_\_\_

Geo. w. Trig.

**Station 3: Measurement & Congruence**

1. Given:

- B is between A and C
  - $\overline{AB} \cong \overline{BC}$
  - $AB = (3x + 4)$  ft.
  - $AC = (9x - 7)$  ft.
- Find x and BC.



$$3x + 4 + 3x + 4 = 9x - 7$$

$$6x + 8 = 9x - 7$$

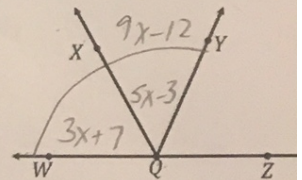
$$15 = 3x$$

$$\boxed{x = 5}$$

$$BC = 3(5) + 4 = 15 + 4 = \boxed{19 \text{ ft}}$$

2. Given:

- $m\angle WQX = (3x + 7)^\circ$
  - $m\angle XQY = (5x - 3)^\circ$
  - $m\angle WQY = (9x - 12)^\circ$
- Find x and  $m\angle WQY$ .



$$3x + 7 + 5x - 3 = 9x - 12$$

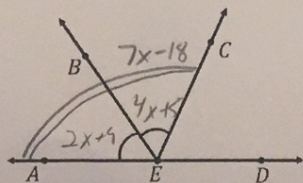
$$8x + 4 = 9x - 12$$

$$\boxed{16 = x}$$

$$m\angle WQY = 9(16) - 12 = \boxed{132^\circ}$$

3. Given:

- $m\angle AEB = (2x + 9)^\circ$
  - $m\angle BEC = (4x - 15)^\circ$
  - $m\angle AEC = (7x - 18)^\circ$
- Find x and  $m\angle BEC$ .



$$2x + 9 = 4x - 15 \quad \text{or} \quad 4x - 15 + 2x + 9 = 7x - 18$$

$$24 = 2x \quad \underline{\underline{6x - 6 = 7x - 18}}$$

$$\boxed{x = 12} \quad \underline{\underline{\boxed{12 = x}}}$$

$$m\angle BEC = 4(12) - 15 = 48 - 15 = \boxed{33^\circ}$$