

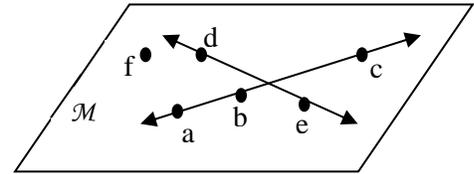
**GEOMETRY**  
**CHAPTER 1 REVIEW**



You will be asked to enter your answers into Google form by October 11<sup>th</sup>. Please go to my website ([hinsdalemath.weebly.com](http://hinsdalemath.weebly.com)) – Go to Quarter 1 tab – Click on the link “Chapter 1 Review HW”.

Use the figure to name each of the following in #1-5

- Two points d and e
- One line de
- Name the plane plane m or plane dbc
- One ray de
- A line containing b ac



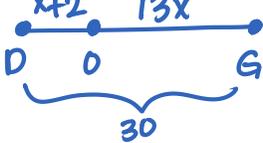
- Sketch a segment with endpoints A and B



- Name and sketch a pair of opposite rays



- O is between  $\overline{DG}$ .  $DO=x+2$ ,  $OG=13x$ , and  $DG=30$ . Find the length of OG



$$\begin{aligned} x+2+13x &= 30 \\ 14x &= 28 \\ x &= 2 \end{aligned}$$

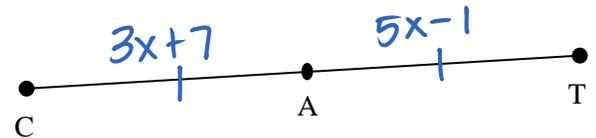
$$\begin{aligned} OG &= 13(2) \\ \boxed{OG} &= \boxed{26} \end{aligned}$$

Refer to the diagram on the right for #9-12.

A is the midpoint of CT,  $CA=3x+7$ ,  $AT=5x-1$ .

- Find the value of x.

$$\begin{aligned} 3x+7 &= 5x-1 \\ -2x &= -8 \\ x &= 4 \end{aligned}$$



- Find the length of CA

$$\begin{aligned} CA &= 3(4)+7 \\ \boxed{CA} &= \boxed{19} \end{aligned}$$

- Find the length of AT

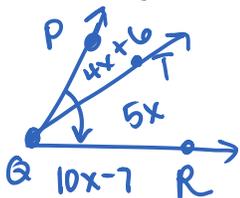
$$\begin{aligned} AT &= 5(4)-1 \\ \boxed{AT} &= \boxed{19} \end{aligned}$$

- Find the length of CT

$$\begin{aligned} CT &= 19+19 \\ \boxed{CT} &= \boxed{38} \end{aligned}$$

T is in the interior of  $\angle PQR$ . Find each of the following.

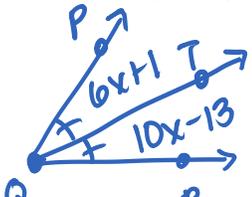
- Find  $m\angle PQR$  if  $m\angle PQR = (10x - 7)^\circ$ ,  $m\angle RQT = 5x^\circ$ , and  $m\angle PQT = (4x + 6)^\circ$ .



$$\begin{aligned} 4x+6+5x &= 10x-7 \\ 9x+6 &= 10x-7 \\ -x &= -13 \\ x &= 13 \end{aligned}$$

$$\begin{aligned} m\angle PQR &= 10(13)-7 \\ \boxed{m\angle PQR} &= \boxed{123^\circ} \end{aligned}$$

- Find  $m\angle PQR$  if  $\overline{QT}$  bisects  $\angle PQR$ ,  $m\angle RQT = (10x - 13)^\circ$ , and  $m\angle PQT = (6x + 1)^\circ$ .



$$\begin{aligned} 10x-13 &= 6x+1 \\ 4x &= 14 \\ x &= 7/2 \end{aligned}$$

$$\begin{aligned} m\angle PQR &= m\angle RQT + m\angle PQT \\ m\angle RQT &= 10(3.5)-13 = 22^\circ \\ m\angle PQT &= 6(3.5)+1 = 22^\circ \end{aligned}$$

- Find the supplement of  $\angle Z$

$$\begin{aligned} 180 - 42.1 & \\ \text{or} & \\ x &= 3.5 \end{aligned}$$



$$\boxed{m\angle PQR} = \boxed{44^\circ}$$

137.9

16. Find the complement of  $\angle Y$

$$90 - (8x - 20)$$

$$90 - 8x + 20$$

$$(110 - 8x)^\circ$$

17. The supplement of an angle is  $30^\circ$  less than three times the complement of the angle. Find the measure of the supplement

angle =  $x$   
 Supp =  $180 - x$   
 Comp =  $90 - x$

$$180 - x = 3(90 - x) - 30$$

$$180 - x = 270 - 3x - 30$$

$$180 - x = 240 - 3x$$

$$2x = 60 \quad x = 30$$

$\angle = 30^\circ$   
 Supp of  $\angle = 180 - 30$   
 $= 150^\circ$

18. The ratio of the measures of two supplementary angles is 1:2. What is the measure of the larger angle?

$$1x + 2x = 180$$

$$3x = 180$$

$$x = 60$$

Larger  $\angle = 2(60) = 120^\circ$

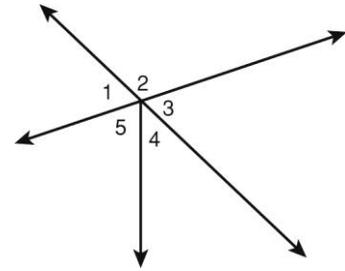
Tell whether the indicated angles are only vertical, only adjacent, are adjacent and form a linear pair, or are none.

19.  $\angle 5$  and  $\angle 4$  adjacent

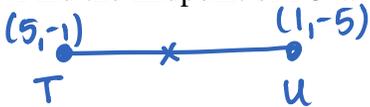
20.  $\angle 1$  and  $\angle 4$  none

21.  $\angle 2$  and  $\angle 3$  linear pair

22.  $\angle 1$  and  $\angle 3$  vertical angles



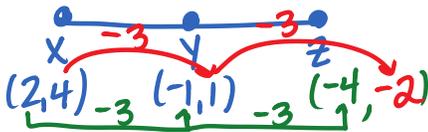
23. Find the midpoint of  $\overline{TU}$  with endpoints  $T(5, -1)$  and  $U(1, -5)$ .



$$\left( \frac{5+1}{2}, \frac{-1+(-5)}{2} \right)$$

$$(3, -3)$$

24.  $Y$  is the midpoint of  $\overline{XZ}$ .  $X$  has coordinates  $(2, 4)$ , and  $Y$  has coordinates  $(-1, 1)$ . Find the coordinates of  $Z$ .



$$(-4, -2)$$

25. Use the Distance Formula to find the distance between  $K(-7, -4)$  and  $L(-2, 0)$ .

$$D = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$D = \sqrt{(-7 - (-2))^2 + (-4 - 0)^2} = \sqrt{25 + 16} = \sqrt{41}$$