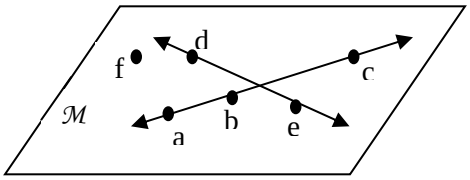
Geometry
Chapter 1 Review

Name_____Per_____

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

1. Two points d and e
2. One line $\overleftrightarrow{de}$
3. Name the plane plane M or plane dbc
4. One ray $\overrightarrow{de}$
5. A line containing b $\overleftrightarrow{ac}$

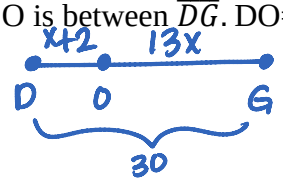


6. Sketch a segment with endpoints A and B

7. Name and sketch a pair of opposite rays

$\overrightarrow{OD}, \overrightarrow{OG}$

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



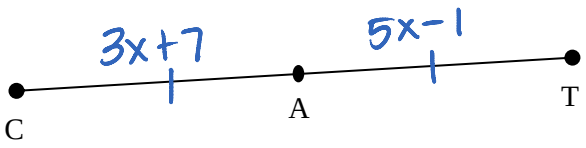
$x+2+13x=30$
$14x=28$
$x=2$

$OG=13(2)$
$\boxed{OG=26}$

Refer to the diagram on the right for #9-12.
A is the midpoint of CT, CA= 3x+7, AT=5x-1.

9. Find the value of x.

$3x+7=5x-1$
$-2x=-8$
$x=4$



10. Find the length of CA

$CA=3(4)+7$
$\boxed{CA=19}$

11. Find the length of AT

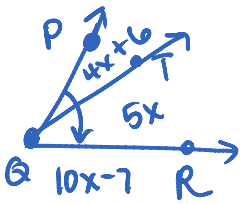
$AT=5(4)-1$
$\boxed{AT=19}$

12. Find the length of CT

$CT=19+19$
$\boxed{CT=38}$

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

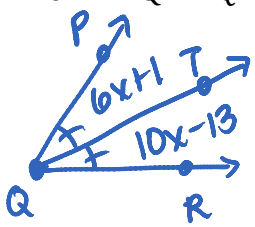
13. Find $m\angle PQR$ if $m\angle PQR=(10x-7)°$, $m\angle RQT=5x°$, and $m\angle PQT=(4x+6)°$.



$4x+6+5x=10x-7$
$9x+6=10x-7$
$-x=-13$
$x=13$

$m\angle PQR=10(13)-7$
$\boxed{m\angle PQR=123°}$

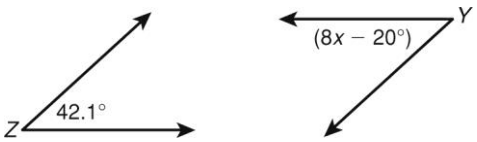
14. Find $m\angle PQR$ if $\overrightarrow{QT}$ bisects $\angle PQR$, $m\angle RQT=(10x-13)°$, and $m\angle PQT=(6x+1)°$.



$10x-13=6x+1$
$4x=14$
$x=7/2$
or
$x=3.5$

$m\angle PQR=m\angle RQT+m\angle PQT$
$m\angle RQT=10(3.5)-13=22°$
$m\angle PQT=6(3.5)+1=22°$
$\boxed{m\angle PQR=44°}$

15. Find the supplement of $\angle Z$ $180-42.1$ $137.9°$



16. Find the complement of $\angle Y$ $90-(8x-20)$ $90-8x+20$ $(110-8x)°$

17. The supplement of an angle is 30° less than three times the complement of the angle. Find the measure of the supplement.

angle = x
Supp = 180 − x
Comp = 90 − x

$180-x=3(90-x)-30$
$180-x=270-3x-30$
$180-x=240-3x$
$2x=60 \quad x=30$

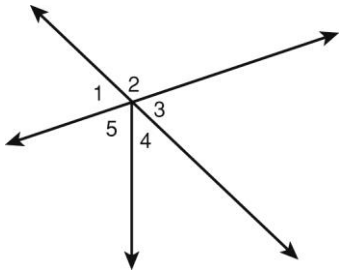
$\angle = 30°$
supp of $\angle = 180-30$
$= 150°$

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 $\angle = 2(60) = 120°$

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 $U(1, -5)$.

(5,-1) T — 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.

X (2,4) −3 Y (−1,1) −3 Z (−4,−2)

(−4,−2)

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

$D=\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$
$D=\sqrt{(-7+2)^2+(-4-0)^2}=\sqrt{25+16}=\sqrt{41}$

26. Use the Pythagorean Theorem to find the distance between $F(-2, 5)$ and $G(1, 9)$.

$a^2+b^2=c^2$
$3^2+4^2=c^2$
$25=c^2$
$\pm 5=c$

FG = 5