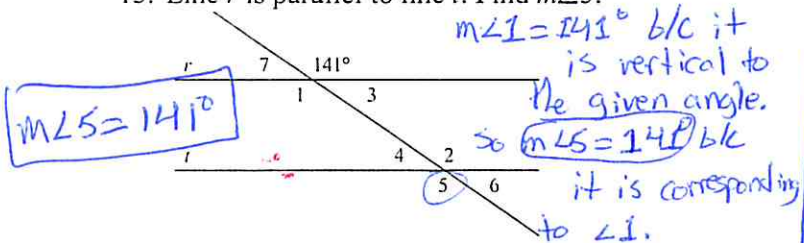
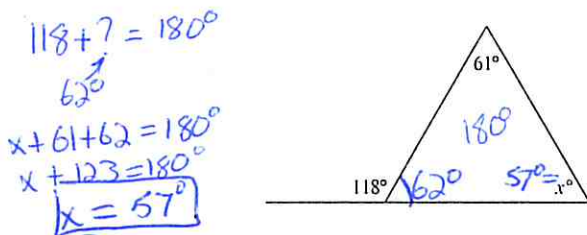


13. Line r is parallel to line t . Find $m\angle 5$.



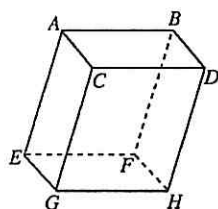
14. Find the value of x .



15. Find the coordinates of the midpoint of the segment whose endpoints are $H(6, 11)$ and $K(2, 1)$.

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right) = \left(\frac{6 + 2}{2}, \frac{11 + 1}{2} \right) = \left(\frac{8}{2}, \frac{12}{2} \right) = (4, 6)$$

16. Which plane is parallel to plane $EFHG$?



ABCD

17. The complement of an angle is 59° . What is the measure of the angle?

$$x + 59 = 90$$

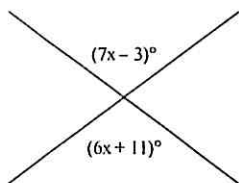
$$x = 31^\circ$$

18. Find the value of x .

Vertical Angles, so $\cong$.

$$7x - 3 = 6x + 11$$

$$\begin{array}{r} -6x \\ -6x \\ \hline x - 3 = 11 \\ +3 \quad +3 \\ \hline x = 14 \end{array}$$



Drawing not to scale

19. The vertices of a triangle are $P(-4, -3)$, $Q(8, 2)$, and $R(-5, 8)$. Name the vertices of the image reflected in the x -axis.

The rule for x -axis reflection is $(x, y) \rightarrow (x, -y)$. That is, the " x " stays the same, but we get the opposite of " y ".

$P(-4, -3)$	$\rightarrow$	$P'(-4, 3)$
$Q(8, 2)$	$\rightarrow$	$Q'(8, -2)$
$R(-5, 8)$	$\rightarrow$	$R'(-5, -8)$

20. Name the Property of Congruence that justifies the statement:

If $\angle W \cong \angle X$ and $\angle X \cong \angle Y$, then $\angle W \cong \angle Y$.

Transitive Property

21. What is the converse of the following conditional?

If a point is in the first quadrant, then its coordinates are positive.

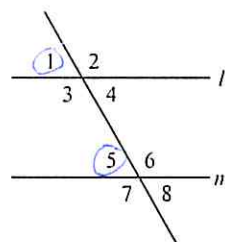
If its coordinate points are positive then the point is in the first quadrant.

22. Write the rule to describe the translation that moves 7 units to the left and 4 units up.

$$(x, y) \rightarrow (x - 7, y + 4)$$

23. Find the value of the variable if $m \parallel l$,

$$m\angle 1 = 8x + 27 \text{ and } m\angle 5 = 2x + 45$$



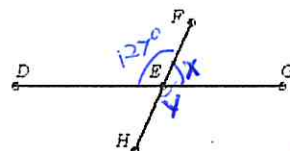
$\angle 1$ and $\angle 5$ are corresponding, so they are $\cong$.

$$8x + 27 = 2x + 45$$

$$\begin{array}{r} -2x \\ -2x \\ \hline 6x + 27 = 45 \\ -27 \quad -27 \\ \hline 6x = 18 \\ \div 6 \quad \div 6 \\ \hline x = 3 \end{array}$$

24. If $m\angle DEF = 127^\circ$, then what are $m\angle FEG$ and $m\angle HEG$?

$\angle DEF$ and $\angle FEG$ are supplementary.



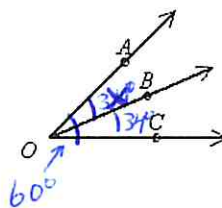
$$x + 127 = 180$$

$$x = 53 = m\angle FEG$$

$\angle DEF$ and $\angle HEG$ are vertical angles, so $\cong$.

$$y = 127^\circ = m\angle HEG$$

25. If $m\angle BOC = 34^\circ$ and $m\angle AOC = 60^\circ$, then what is the measure of $\angle AOB$?



$$m\angle BOC + m\angle AOB = m\angle AOC$$

$$34^\circ + m\angle AOB = 60^\circ$$

$$\begin{array}{r} -34 \\ -34 \\ \hline m\angle AOB = 26^\circ \end{array}$$

$$m\angle AOB = 26^\circ$$