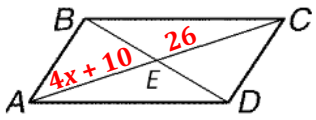
**Geometry – Parallelogram Quiz** **Name** _____ **Date**_____**P:**_____
(8.2 & 8.3)

1. *ABCD* is a parallelogram with diagonals intersecting at *E*. If $AE = 4x + 10$ and $EC = 26$, find *x*.

$4x + 10 = 26$

$4x = 16$

$x = 4$




x = **4**

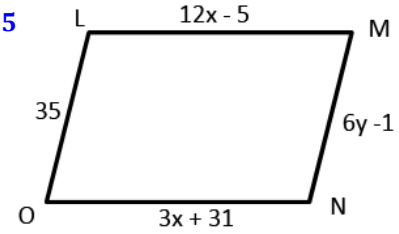
2. Find the values of *x* and *y* so that *LMNO* is a parallelogram.

$12x - 5 = 3x + 31$ $6y - 1 = 35$

$9x - 5 = 31$ $6y = 36$

$9x = 36$ $y = 6$

$x = 4$



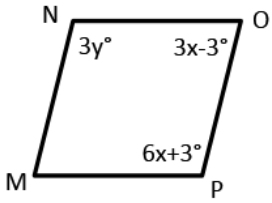

x = **4**, y = **6**

3. What are the values of the variables in quadrilateral *MNOP*?

$(3x - 3) + (6x + 3) = 180$ $3y = 123$

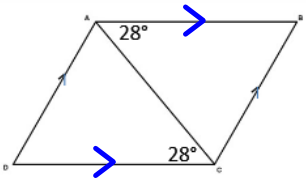
$9x = 180$ $y = 41$

$x = 20$




x = **20**, y = **41**

4. Is ABCD a parallelogram? Explain why or why not?




$\overline{AB} \| \overline{CD}$ because the 28° angles are alternate interior angles that are congruent. So: $\overline{AB} \| \overline{CD}$ and $\overline{AD} \| \overline{BC}$ gives two pair of opposite sides that are parallel. So *ABCD* is a parallelogram.