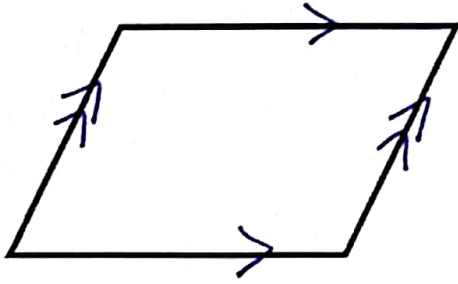


December 12

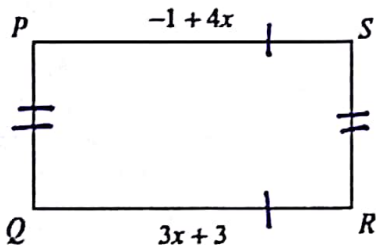
GUIDED NOTES: Properties of Parallelograms

Property: Opposite sides are parallel.



Property: Opposite sides are congruent  
equal

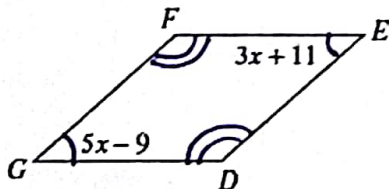
EX1. Solve for x.



$$\begin{array}{r} -1 + 4x = 3x + 3 \\ -3x \quad -3x \\ \hline -1 + x = 3 \\ +1 \quad +1 \\ \hline x = 4 \end{array}$$

Property: Opposite angles are congruent  
equal

EX2. Find  $m\angle G$ .

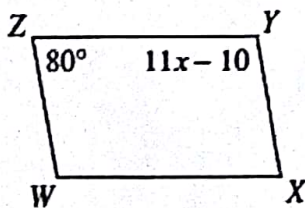


$$\begin{array}{r} 5x - 9 = 3x + 11 \\ -3x \quad -3x \\ \hline 2x - 9 = 11 \\ +9 \quad +9 \\ \hline 2x = 20 \\ \frac{2x}{2} = \frac{20}{2} \\ \hline x = 10 \end{array}$$

$$\angle G = 5(10) - 9 = 41$$

Property: Consecutive angles are supplementary.  
next to each other add to equal 180

EX3. Solve for x.



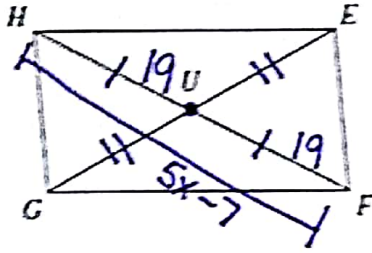
$$\begin{array}{r} 80 + 11x - 10 = 180 \\ 11x + 70 = 180 \\ -70 \quad -70 \\ \hline 11x = 110 \\ \frac{11x}{11} = \frac{110}{11} \\ \hline x = 10 \end{array}$$

Property: Diagonals bisect each other.

cut in half

EX4. Given  $UH = 19$  and  $FH = 5x - 7$ , solve for  $x$ .

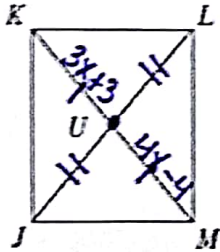
2 halves make 1 whole



$$\begin{array}{r} 19 + 19 = 5x - 7 \\ \hline 38 = 5x - 7 \\ + 7 \quad \textcircled{1} \\ \hline 45 = 5x \\ \frac{45}{5} = \frac{5x}{5} \\ \hline \boxed{9 = x} \end{array}$$

EX5. Given  $KU = 3x + 3$  and  $UM = 4x - 4$ , solve for  $x$ .

halves are always equal



$$\begin{array}{r} 3x + 3 = 4x - 4 \\ -4x \quad \textcircled{1} \\ \hline -x + 3 = -4 \\ \textcircled{3} \quad -3 \\ \hline x = -7 \\ \hline \boxed{x = 7} \end{array}$$