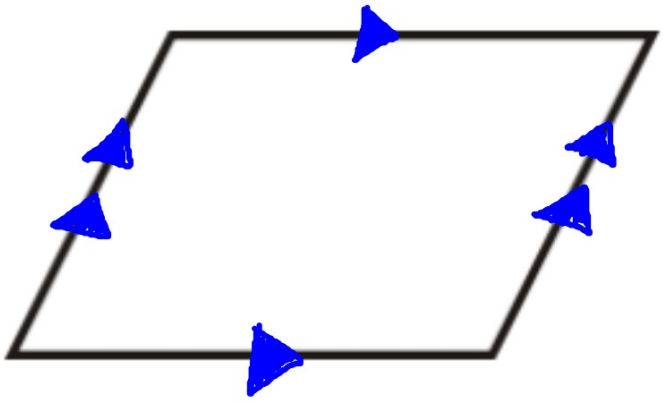
Guided Notes: Properties of Parallelograms

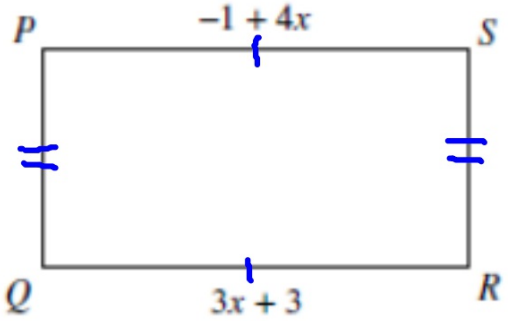
Property: Opposite sides are parallel.



Property: Opposite sides are congruent.

↳ equal

EX1. Solve for x.



$-1+4x=3x+3$

$+1 \qquad +1$

$4x=3x+4$

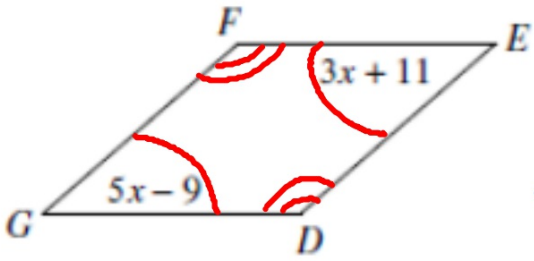
$-3x \quad -3x$

$x=4$

Property: Opposite angles are congruent.

↳ equal

EX2. Find $m\angle G$.



$5x-9=3x+11$

$-3x \quad -3x$

$2x-9=11$

$+9 \quad +9$

$\frac{2x}{2}=\frac{20}{2}$

$x=10$

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

$= 50-9$

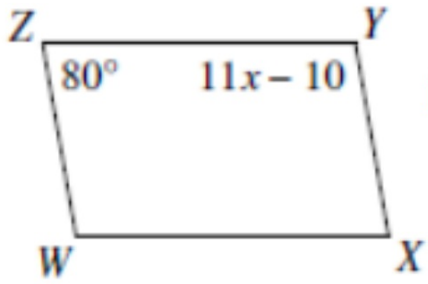
$= 41°$

Property: Consecutive angles are supplementary.

EX3. Solve for x.

↳ 1 after another

↳ Add 180°



$11x - 10 + 80 = 180$

$11x + 70 = 180$

$-70 \quad -70$

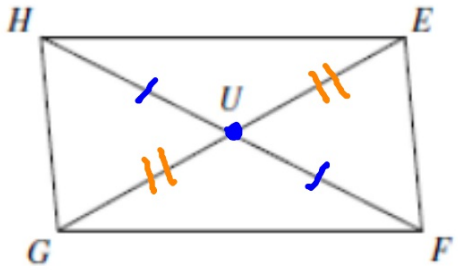
$\frac{11x}{11} = \frac{110}{11}$

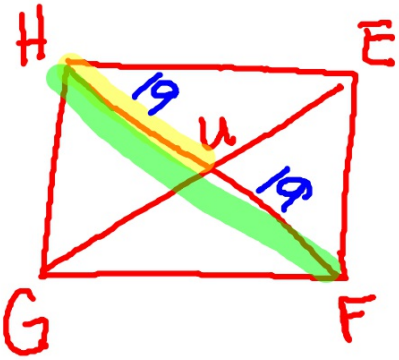
$x = 10$

Property: Diagonals bisect each other.

↳ Cut in half

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





$19 + 19 = 5x - 7$

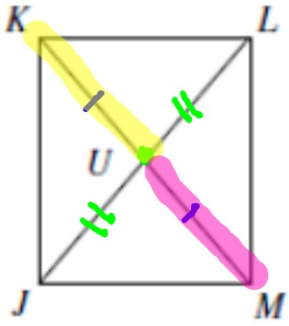
$38 = 5x - 7$

$+7 \qquad +7$

$\frac{45}{5} = \frac{5x}{5}$

$x = 9$

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



$$3x+3 = 4x-4$$
$$-3 \qquad -3$$
$$3x = 4x-7$$
$$-3x \quad -3x$$
$$0 = x-7$$
$$+7 \qquad +7$$
$$7 = x$$

Homework is on Page 7.6 in Packet