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	Unit 11 Review	Review WS/STUDY!!
	Unit 11 Test	

Lesson 1: Quadrilaterals and Parallelograms

The Quadrilateral

Properties you need to know about quadrilaterals:

- A quadrilateral is a polygon with 4 sides and 4 angles.
- The sum of the interior angles of a quadrilateral is 360° .
- The sum of the exterior angles of a quadrilateral is 360° .



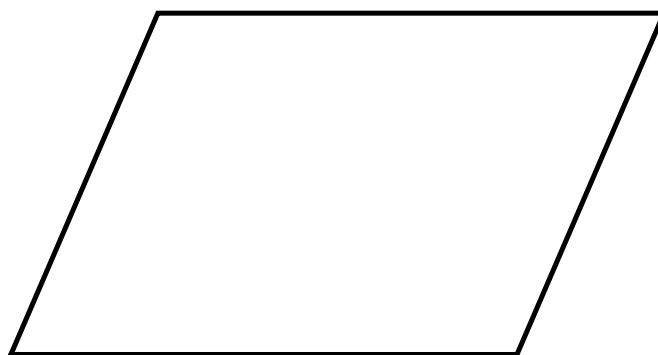
A **parallelogram** is a quadrilateral with 2 pairs of parallel sides.

Properties you need to know about parallelograms:

A parallelogram is a polygon with 4 sides and 4 angles.

The sum of the interior angles is 360° .

The sum of the exterior angles is 360° .



Additional properties

Defn.

① • Opposite sides are parallel.

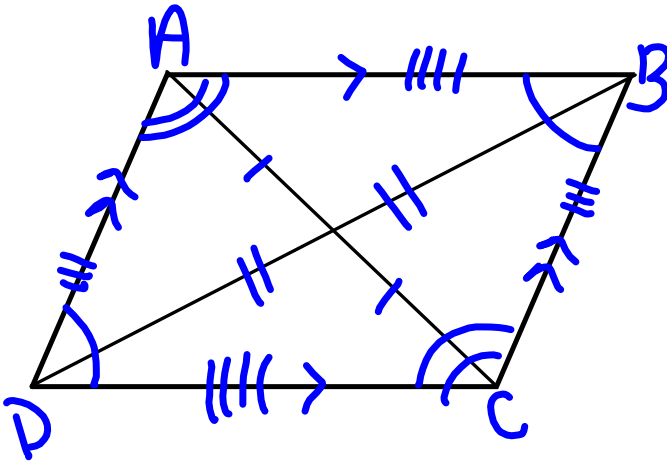
② • Opposite angles are congruent.

③ • The diagonals bisect each other.


④ Opposite sides are congruent.






⑤ Consecutive angles are supplementary ^{180°}

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- The diagonal divides the parallelogram into 2 congruent triangles.
-

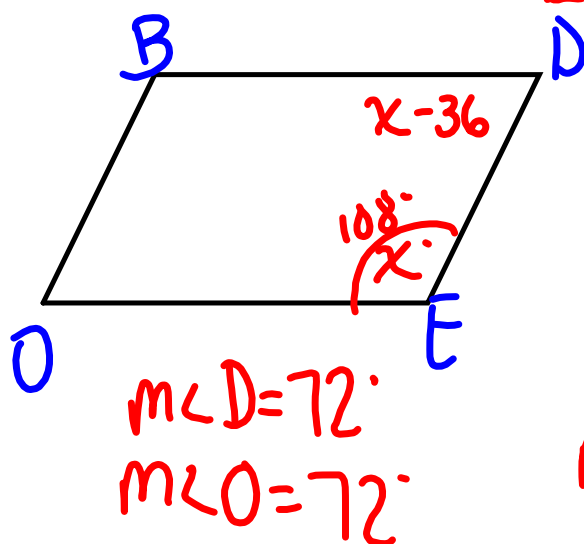


$$m\angle A + m\angle B = 180^\circ$$

 — Parallel-
ogram
Parallelogram

1)		→ both pairs opposite sides //
2)		→ both pairs opposite sides \cong
3)		→ both pairs opposite \angle 's \cong
4)		→ diagonals bisect each other (\cong segments)
5)		→ consecutive \angle 's are supplementary

↓
Ex 1: In $\square DEOB$, the measure of $\angle D$ is 36° less than the measure of $\angle E$.
Find the measures of all 4 angles of $\square DEOB$.



□ → Cons. \angle 's are
Supp

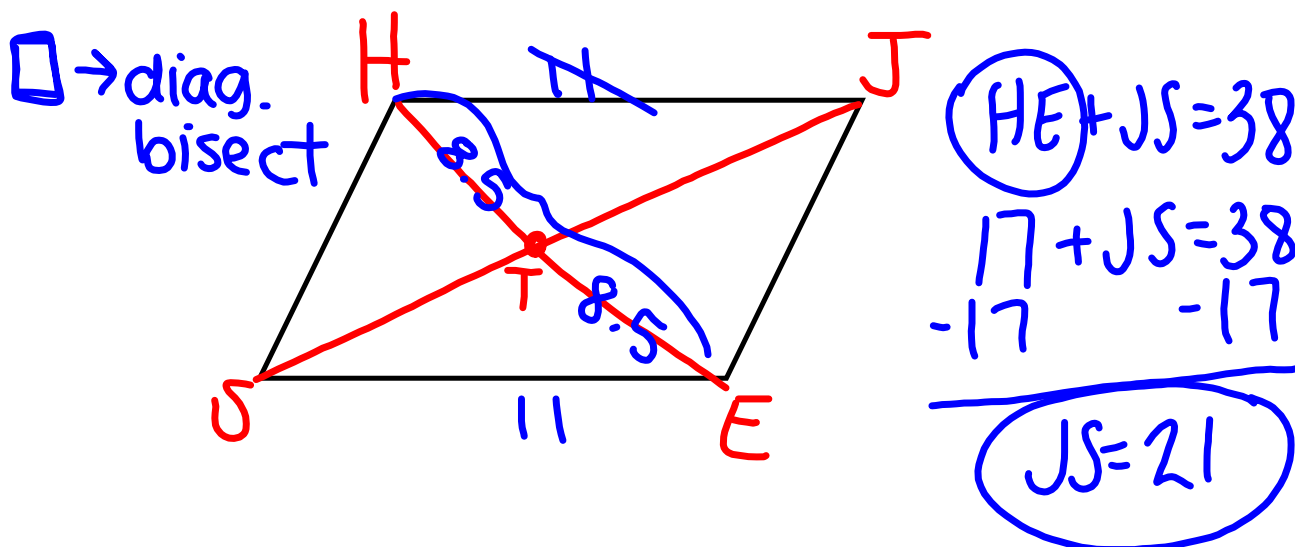
$$x + x - 36 = 180$$

$$x = 108$$

$$m\angle E = 108$$

$$m\angle B = 108$$

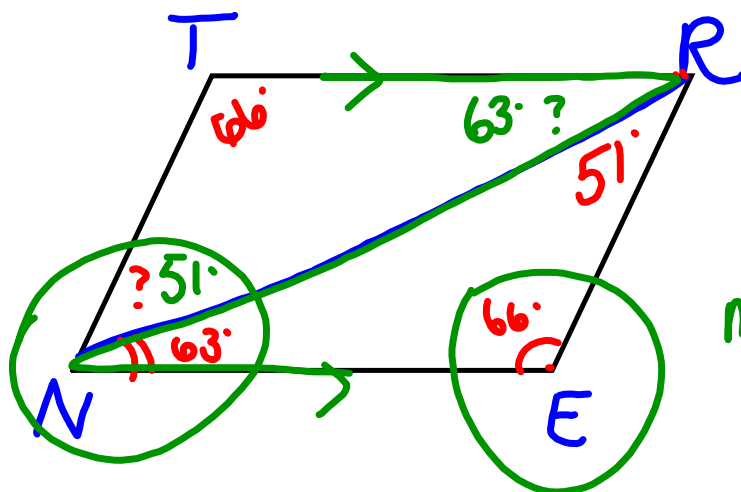
Ex 3: Two diagonals, which meet at point T , are drawn in $\square HJES$. The length of \overline{HJ} is 11. The sum of the total length of the diagonals \overline{HE} and \overline{JS} is 38. The length of \overline{HT} is 8.5. What is the length of \overline{JS} ?



Ex 2: In $\square CPHR$, the sum of the measures of angle C and angle H is 242° .
If $m\angle C = (120 + x)^\circ$, what is the value of x ?

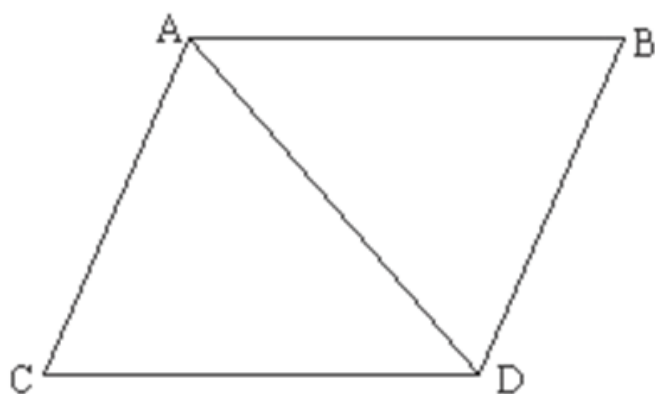


Ex 4: In $\square TREN$, a diagonal \overline{RN} is drawn. The measure of $\angle REN = 66^\circ$ and the measure of $\angle RNE = 63^\circ$. What is the measure of $\angle RNT$?



$$180 - 66 - 63$$
$$m\angle RNT = 51^\circ$$

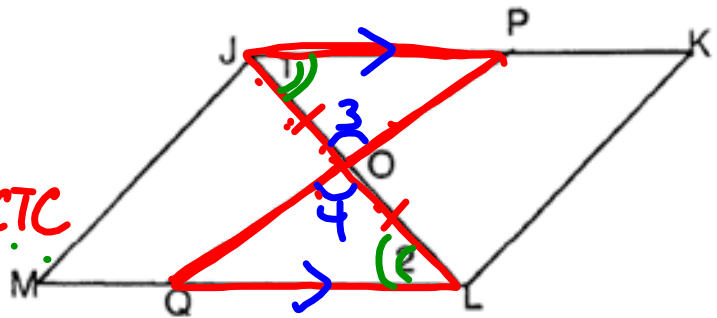
Ex 5: Given $\square ABDC$ with $m\angle DAC = (2x + 60)^\circ$, $m\angle ADB = (40 + x)^\circ$,
 $m\angle DAB = (x + 60)^\circ$ and $m\angle ADC = (100 + 3x)^\circ$, find the value of x .



Ex 7: Given: $JKLM$ is a \square , $\overline{JO} \cong \overline{OL}$

Prove: $\overline{OP} \cong \overline{OQ}$

CPCTC



Statements

Reasons

① $JKLM$ is a \square
 $\overline{JO} \cong \overline{OL}$ ⑤

① Given

② $\angle 3 \cong \angle 4$ ④

② Vertical \angle 's are \cong

③ $\overline{JK} \parallel \overline{ML}$

③ In a \square , opp. sides are \parallel

④ $\angle 1 \cong \angle 2$ ④

④ $\parallel \rightarrow$ alt. int. \angle 's are \cong

⑤ $\triangle JOP \cong \triangle LOQ$

⑤ ASA \cong ASA

⑥ $\overline{OP} \cong \overline{OQ}$

⑥ CPCTC

HW 11-1

Homework Packet 11-1