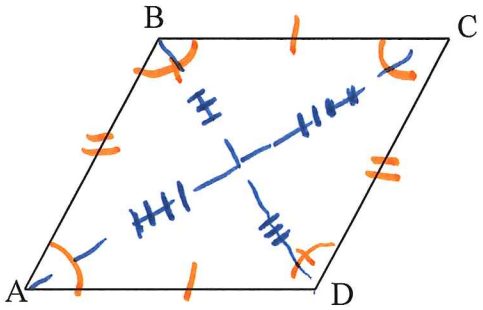
PARALLELOGRAM NOTES DAY 1

- **Parallelogram ABCD**
  - ∠A and ∠C are opposite angles
  - ∠A and ∠B are consecutive angles
  - Sides $\overline{AB}$ and $\overline{DC}$ are opposite sides
  - Sides $\overline{AB}$ and $\overline{BC}$ are consecutive sides



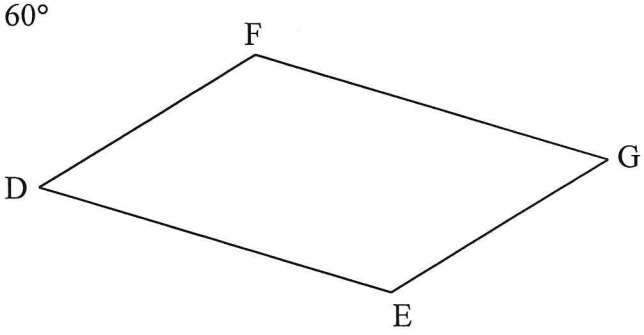
KNOW ALL OF THESE!

Properties of Parallelograms

- Opposite sides of a parallelogram are congruent
- Opposite angles of a parallelogram are equal
- Consecutive angles of a parallelogram are supplementary
- The sum of the angles of a parallelogram are $180(4-2) = 180 \cdot 2 = 360°$
- The diagonals of a parallelogram bisect each other

In Parallelogram DEFG ∠D = 60°

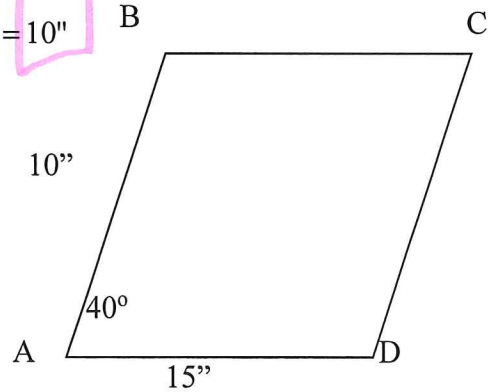
∠E =
∠F =
∠G =



- Examples

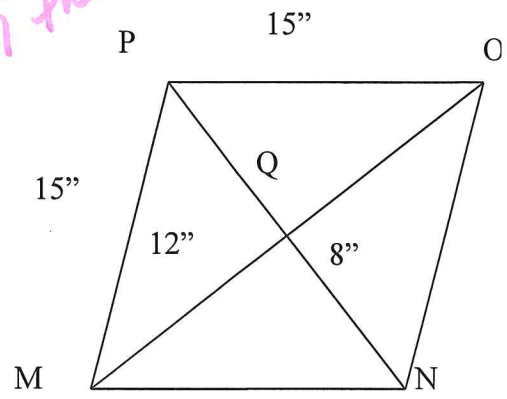
1. $m\angle B = 140°$
   $m\angle C = 40°$
   $m\angle D = 140°$
   $m\overline{BC} = 15"$
   $m\overline{CD} = 10"$

Do this w/ them



2. $m\angle A = 60°$
   $m\overline{MN} = 15"$
   $m\overline{MO} = 24"$
   $m\overline{NP} = 16"$
   $m\overline{NO} = 15"$
   $m\overline{PQ} = 8"$

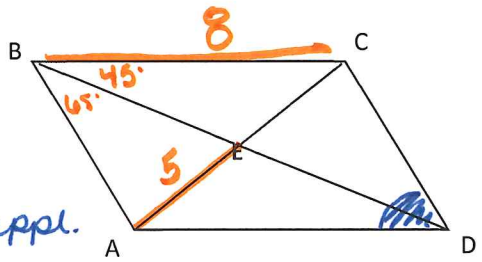
Do this w/ them



PARALLELOGRAM EXAMPLES
DAY 1

Key

Ex1: ABCD is a parallelogram. Given $m\angle ABD = 65°$, $m\angle CBD = 45°$, AE = 5, BC = 8. Find the measure of the following:



AD = 8 op. sides are ≅

EC = 5 diags. bisect each other

$m\angle ADC$ = 110° op. ∠s are ≅

$m\angle BCD$ = 70° con. int. ∠s are suppl.

$m\angle BDA$ = 45° alt. int ∠s are ≅

Ex2: **Find the indicated measure in ▱*ABCD*.**

12. $m\angle AEB$ 117°

13. $m\angle BAE$ 117°

14. $m\angle AED$ 63°

15. $m\angle ECB$ 80°

16. $m\angle BAD$ 120°

17. $m\angle DCE$ 40°

18. $m\angle ADC$ 60°

19. $m\angle DCB$ 120°