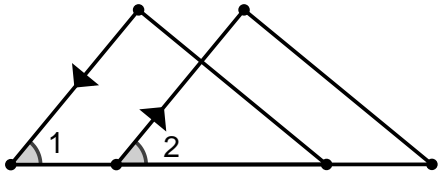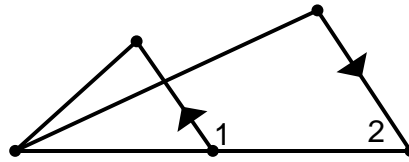**In each picture, a pair of parallel lines is marked. Name a pair of angles that are congruent or supplementary and state the parallel line theorem that justifies your conclusion.**
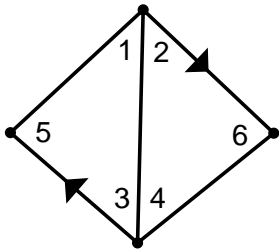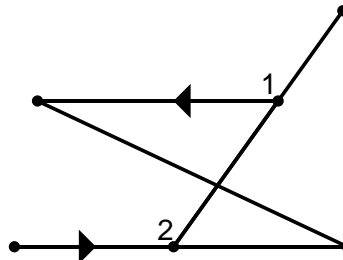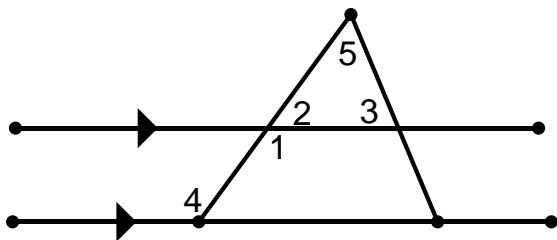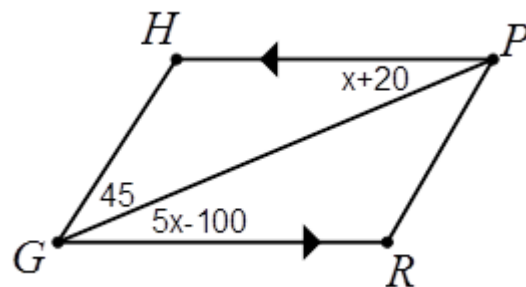
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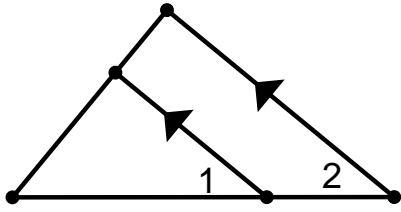_____

Use the parallel line theorems to solve for the variable:

5. m<1 = 3x+10, m<4 = 110

6.

7. m<1 = 6x+30, m<2 = 4x+36 .

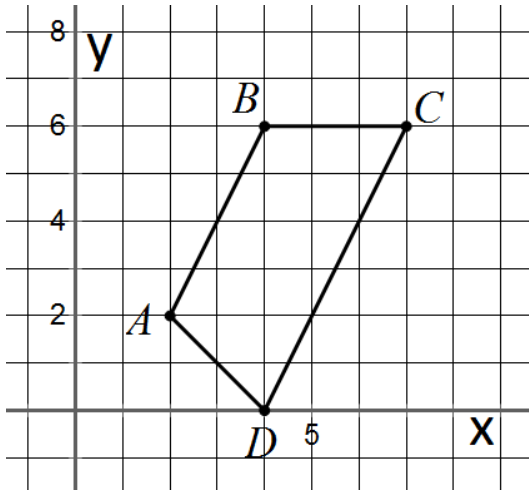
8. m<1=50, m<4 = x+30, m<5=2x+10
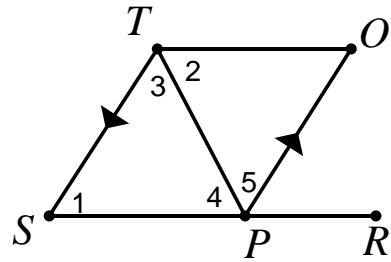
9. Given: Quadrilateral ABCD is graphed.
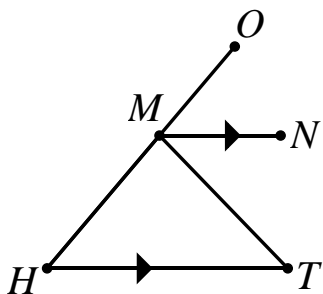
Prove: $m\angle B + m\angle C = 180$

10. **Complete a Two-Column Proof:**

Given: $\overline{MN} // \overline{HT}$

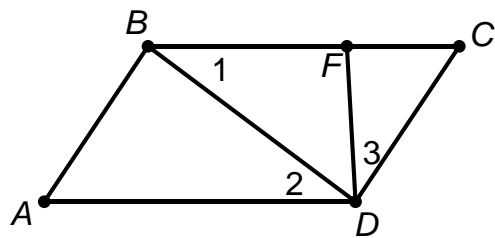$\angle NMT \cong \angle HMT$

Prove: $\angle HMT \cong \angle HTM$

11. Complete a Paragraph Proof:

Given: Parallelogram ABCD

$\angle 2 \cong \angle 3$

Prove: $\angle 1 \cong \angle 3$

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12. Complete either a Two-Column or Paragraph Proof:

Given: $\overline{AB} // \overline{CD}$

$\angle 3 \cong \angle 4$

Prove: $\angle 1 \cong \angle 2$

Hint: Use the subtraction method.