Section 3.3 - Day 2 - Proving Lines are Parallel

Congruent, supplementary or no conclusion?

If a // b,

∠3 & ∠12

∠2 & ∠7

∠2 & ∠14

∠16 & ∠17

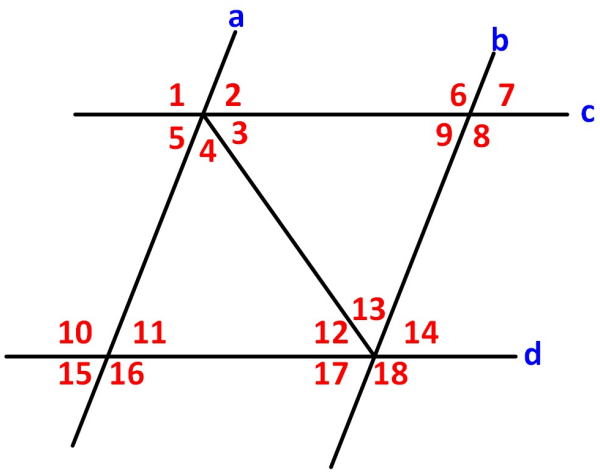
If c // d

∠2 & ∠11

∠2 & ∠7

∠8 & ∠14

∠3 & ∠12



If 2 lines are cut by a transversal and

- ○ _____ angles are ≅
- ○ _____ angles are ≅
- ○ _____ angles are supplementary

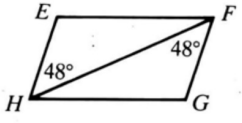
THEN THE TWO LINES ARE _____

Ways to show two lines are parallel

- Show that 2 corresponding angles are _____
- Show that 2 alternate interior angles are _____
- Show that 2 same-side interior angles are _____
- Show that both lines are _____ to a third line
- Show that both lines are _____ to a third line.

State which segments (if any) must be parallel. State the postulate or theorem that justifies your answer.

1.



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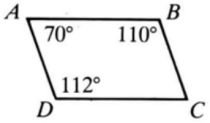

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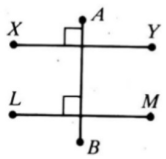

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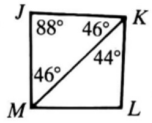

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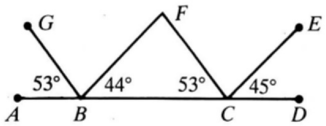

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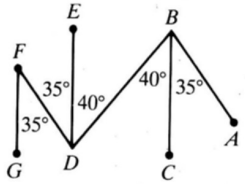
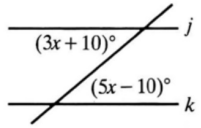


Find the value of x that makes $j \parallel k$.

18.



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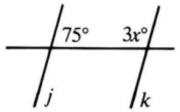

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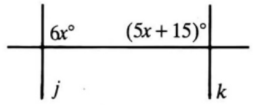
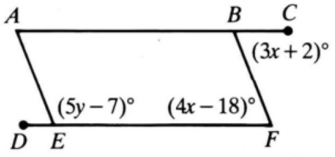


Find the values of x and y that make $\overline{AC} \parallel \overline{DF}$ and $\overline{AE} \parallel \overline{BF}$.

21.



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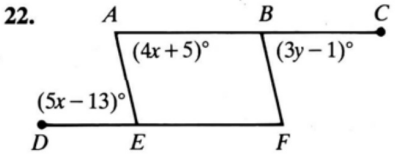
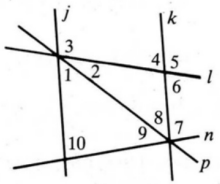
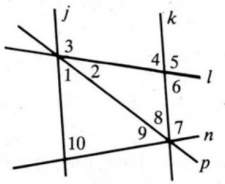


In each exercise, some information is given. Name the lines (if any) that must be parallel. If there are no such lines, write *none*.

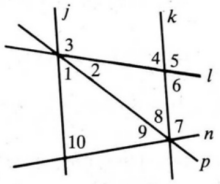
1) $\angle 1 \cong \angle 8$



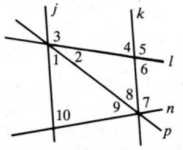
2) $\angle 4 \cong \angle 6$



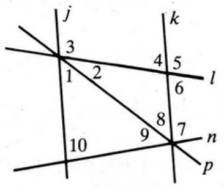
3) $\angle 10 \cong \angle 7$



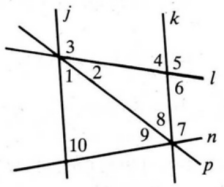
4) $m(\angle 3) + m(\angle 4) = 180$



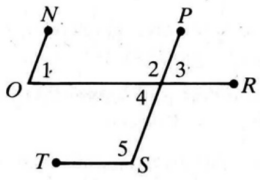
5) $\angle 5 \cong \angle 3$



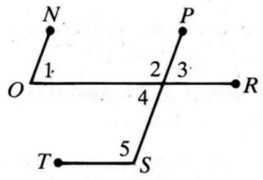
6) $\angle 6 \cong \angle 7$



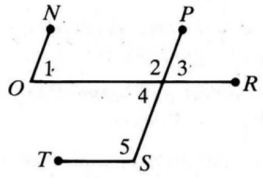
7) $\angle 1 \cong \angle 3$



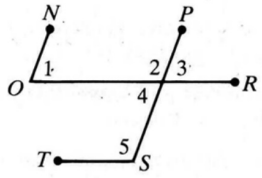
8) $\angle 1 \cong \angle 4$



9) $\angle 2 \cong \angle 5$



10) $\angle 3 \cong \angle 5$



11) $\angle 4$ is supplementary to $\angle 5$