



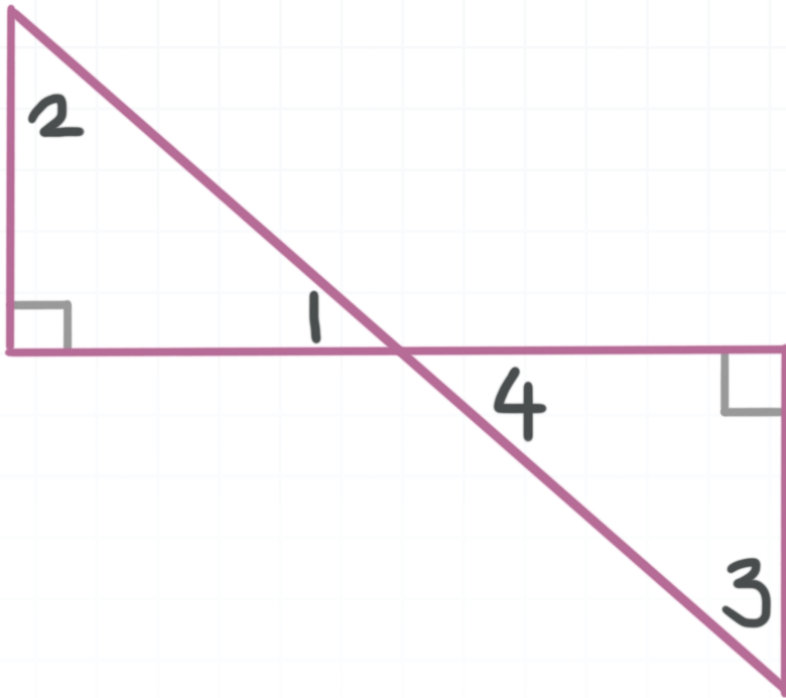
Geometry Workbook

Congruence

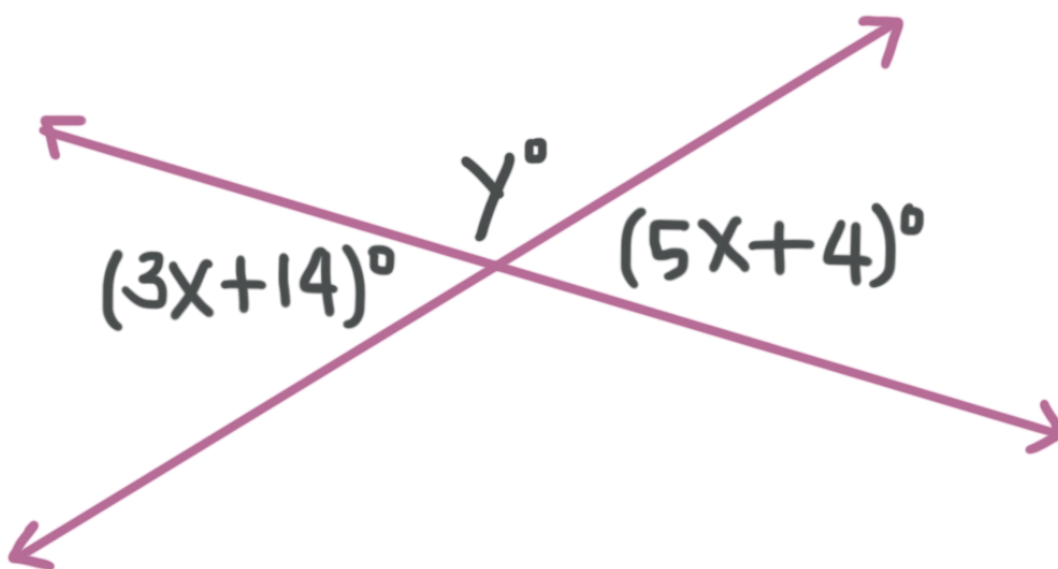
krista king
MATH

CONGRUENT ANGLES

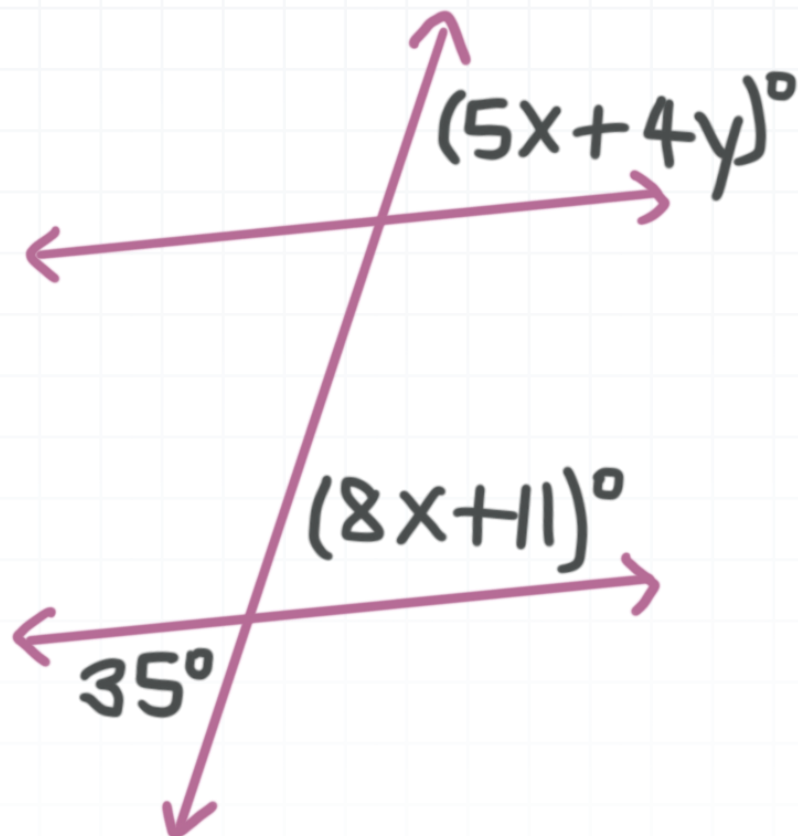
- 1. $m\angle 3 = 4x - 11$ and $m\angle 1 = 5x + 2$. Find $m\angle 2$.



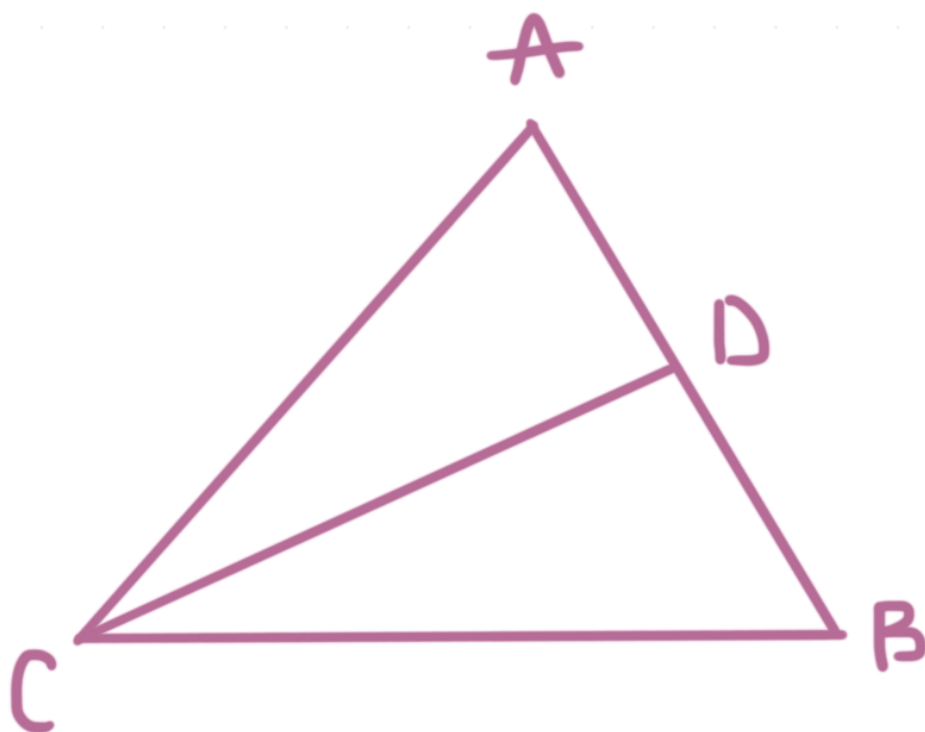
- 2. Find the values of x and y .



- 3. Find the value of x and y .

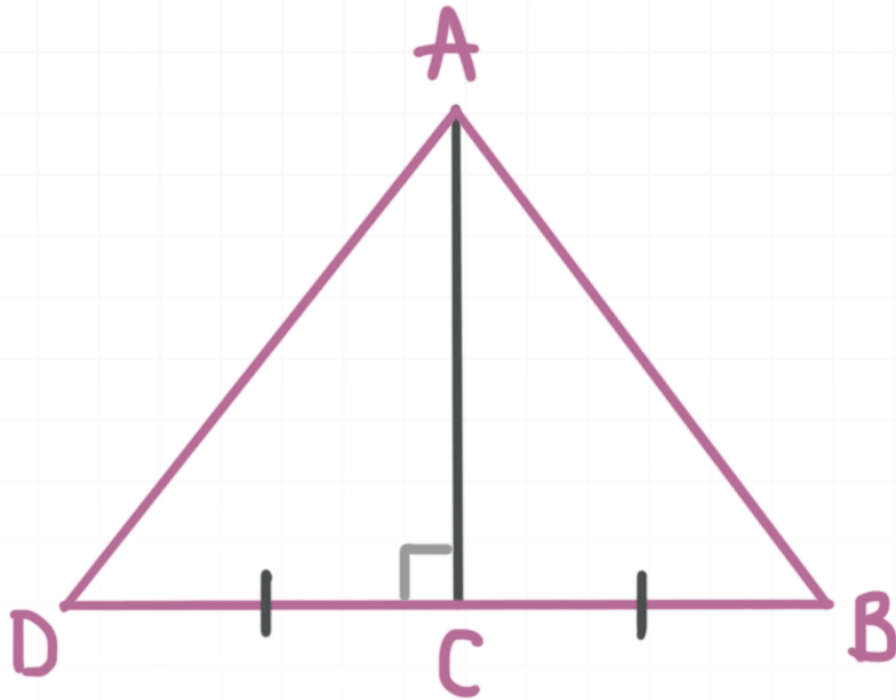


- 4. \overline{CD} is an angle bisector of the triangle and $\overline{CD} \perp \overline{AB}$. $m\angle CAD = 5x - 10$ and $m\angle BCD = 25$. Find x .

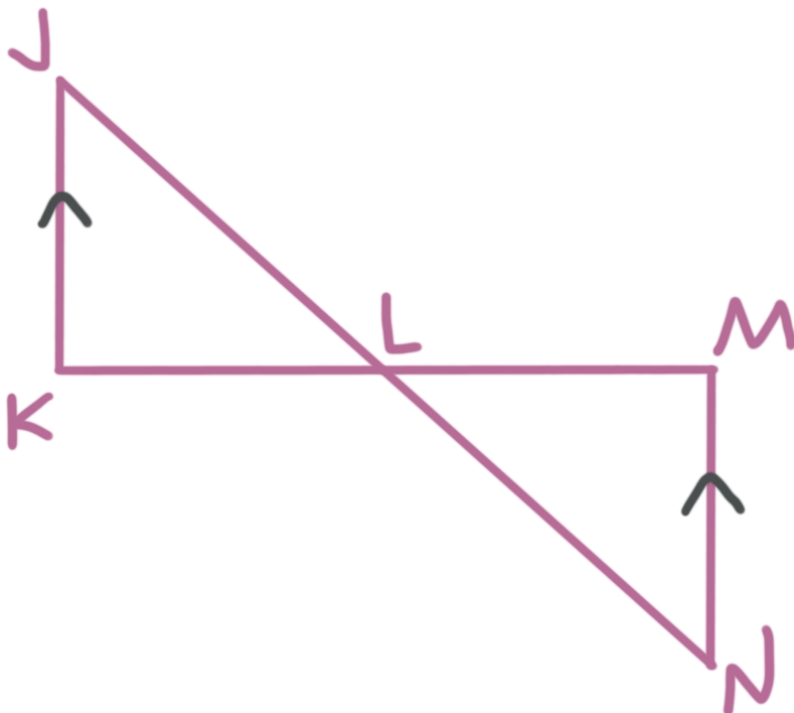


TRIANGLE CONGRUENCE WITH SSS, ASA, SAS

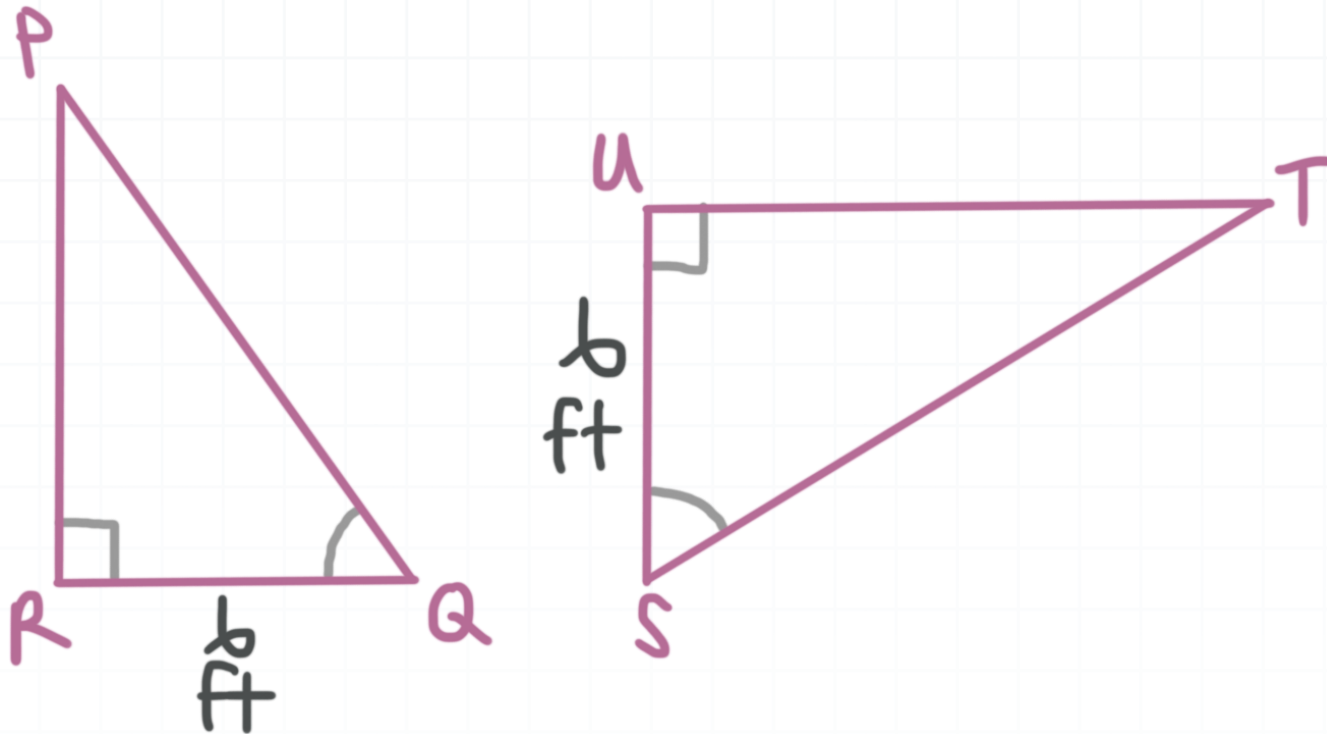
- 1. Fill in the blank. $\triangle ABC \cong \triangle ADC$ by the _____ Theorem.



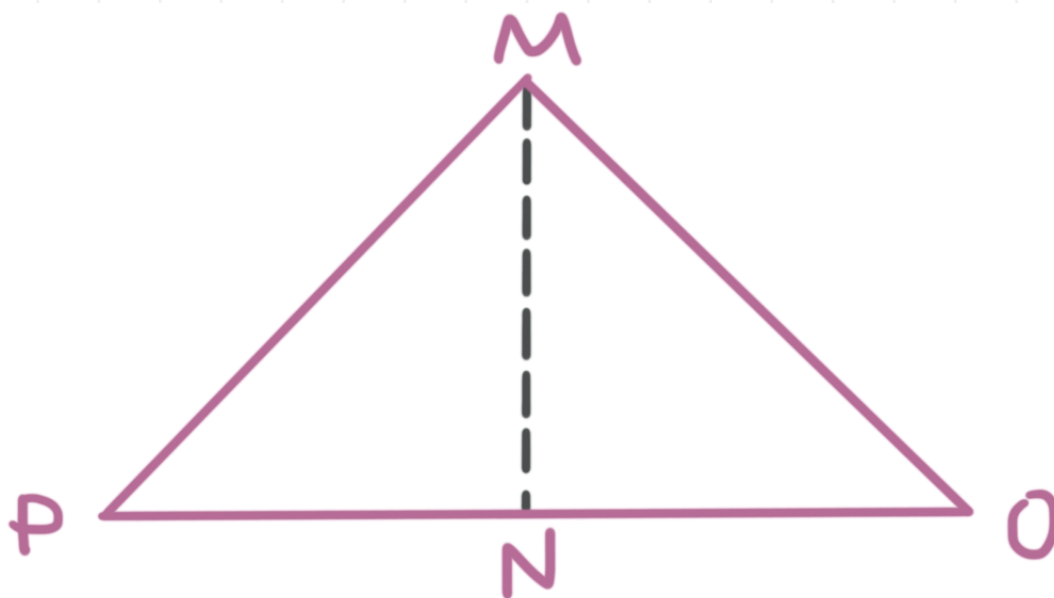
- 2. Fill in the blank. L is a midpoint of \overline{JN} . $\triangle JKL \cong \triangle NML$ by the _____ Theorem.



■ 3. $\triangle PRQ \cong \triangle$ _____ by the _____ Theorem.

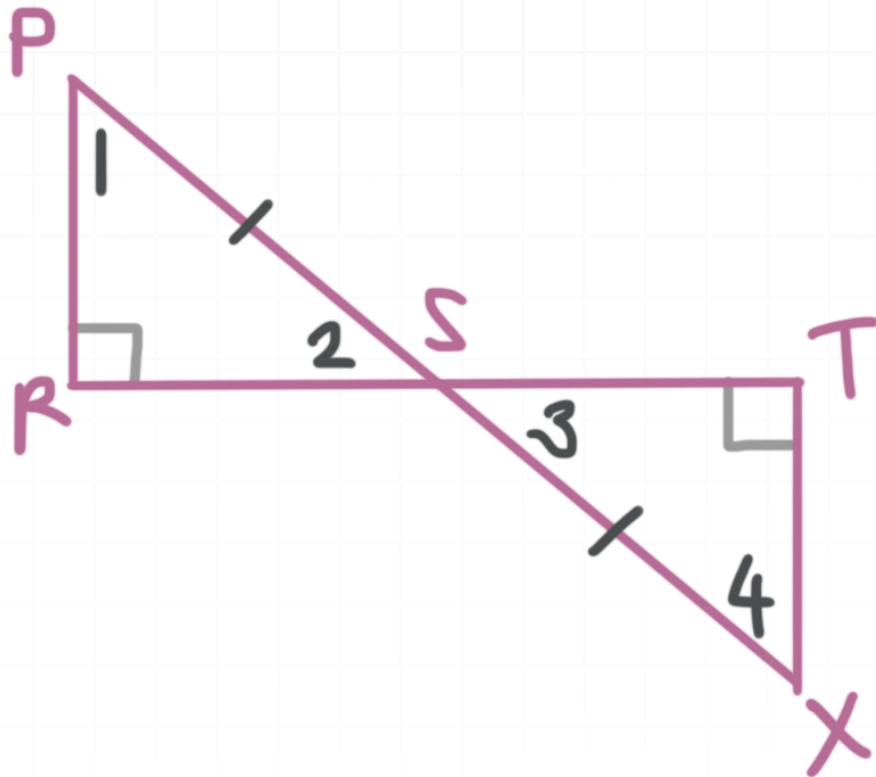


■ 4. $\triangle PMD$ is an isosceles triangle with vertex angle at M . N is a midpoint of \overline{PD} . $\triangle PMN \cong \triangle DMN$ by the _____ Theorem.



TRIANGLE CONGRUENCE WITH AAS, HL

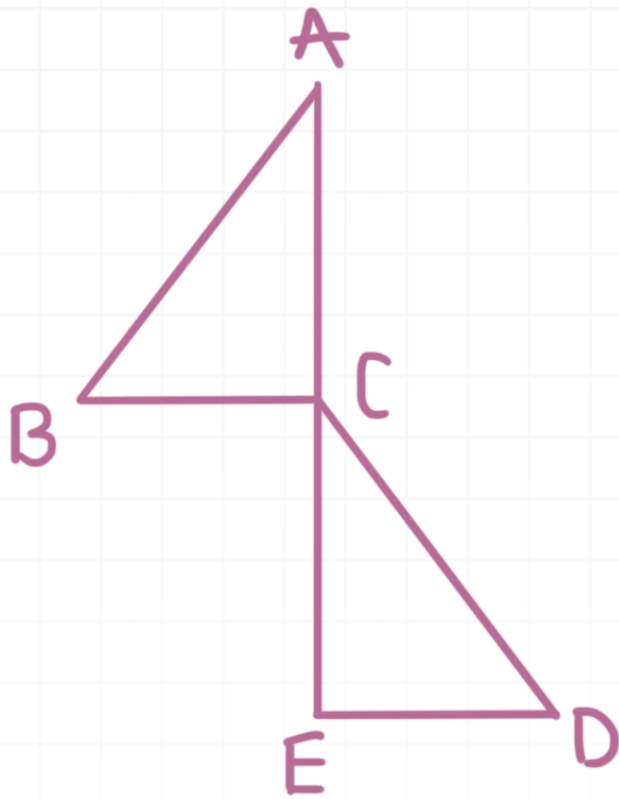
- 1. Which theorem could be used to prove $\triangle PRS \cong \triangle XTS$?



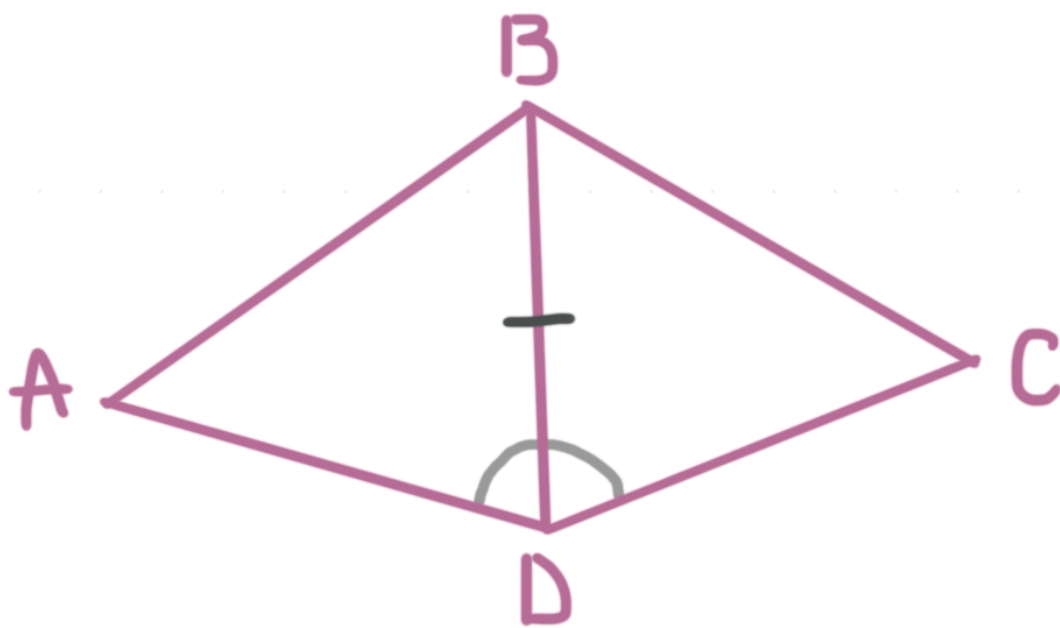
- 2. Which theorem could be used to prove $\triangle ACB \cong \triangle ECD$? The following facts are given about the triangles.

$\overline{AE} \perp \overline{BC}$, $BC \parallel DE$, $\overline{AB} \cong \overline{DC}$, and C is a midpoint of \overline{AE}



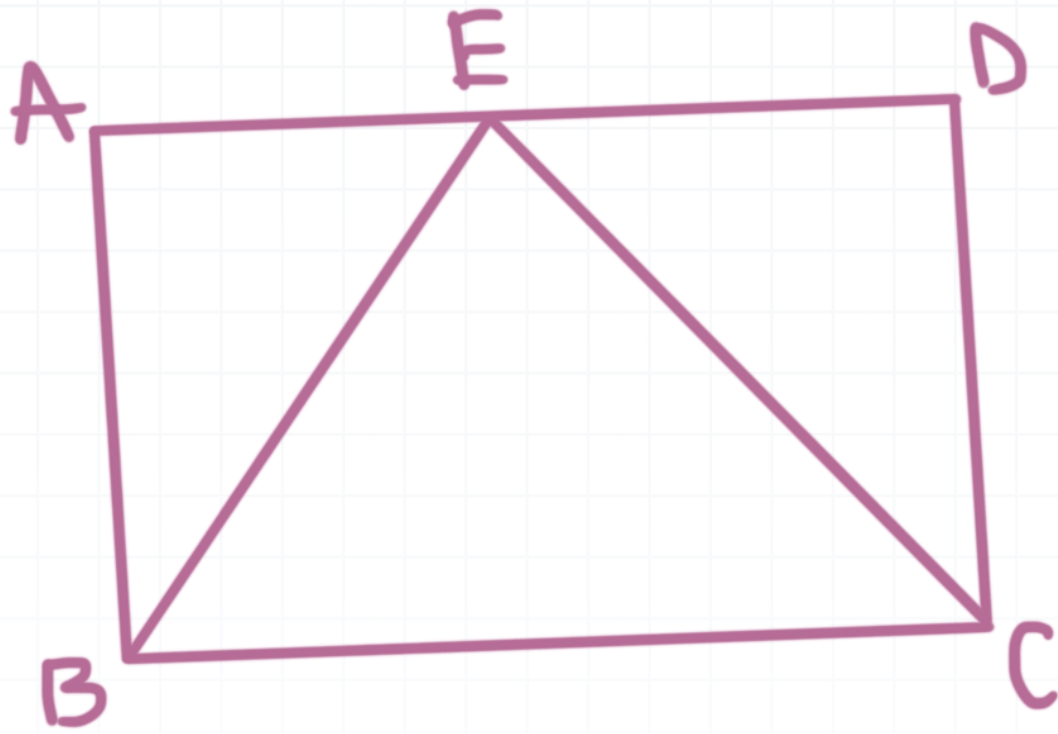


- 3. What additional information would we need to prove these triangles are congruent using *AAS* Theorem?



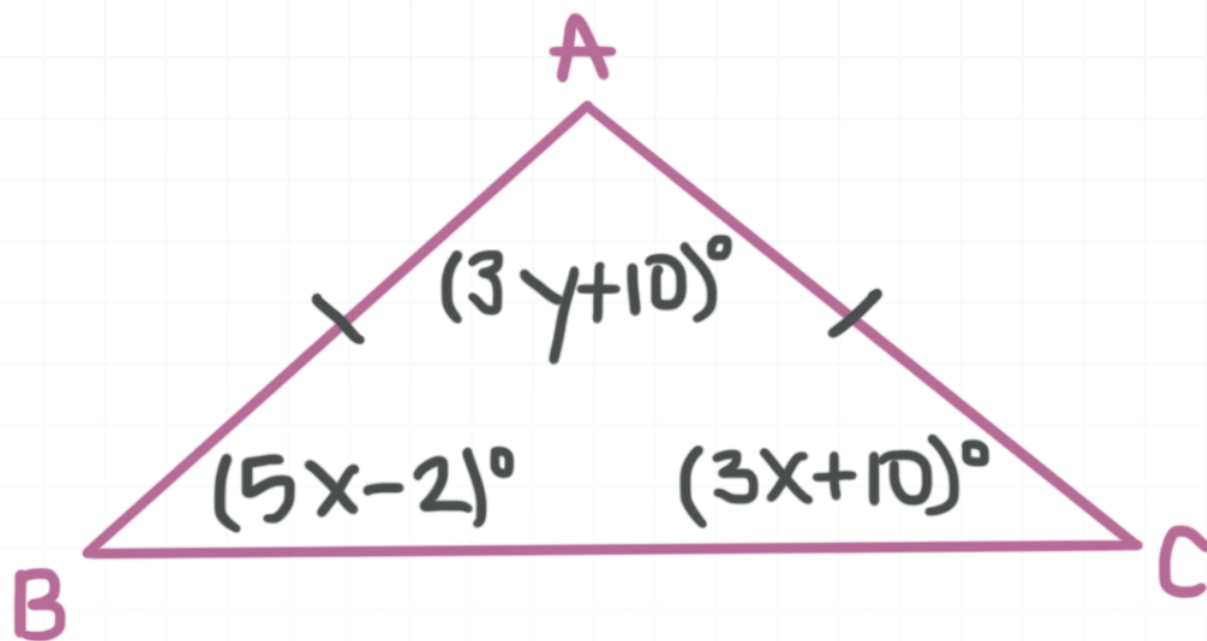
- 4. $ABCD$ is a rectangle. BEC is an isosceles triangle with vertex angle at E . Write a proof to verify that $\triangle BAE \cong \triangle CDE$ by the *HL* Theorem.





ISOSCELES TRIANGLE THEOREM

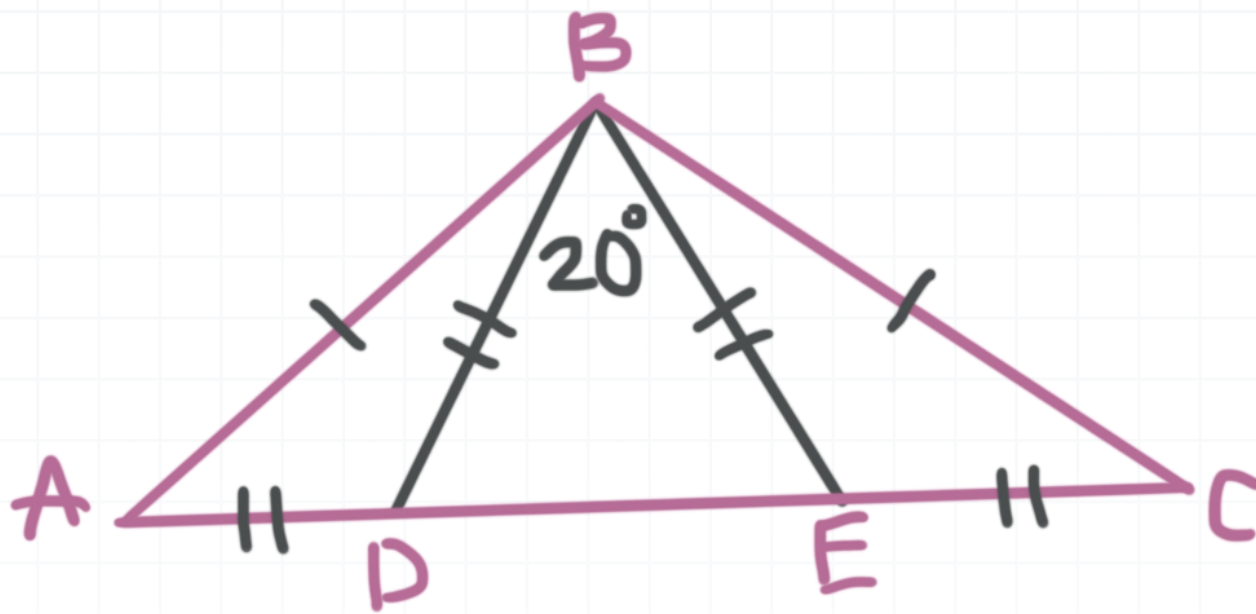
- 1. Find the values of x and y .



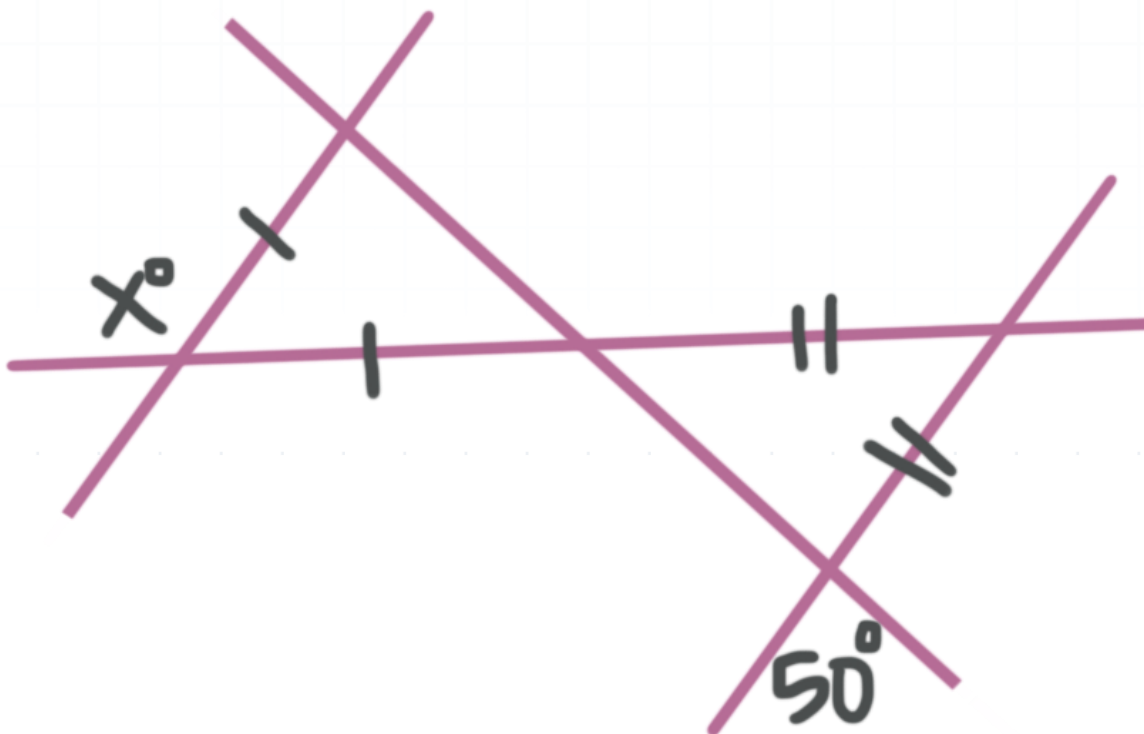
- 2. $\triangle JKL$ is isosceles with vertex angle K . $JK = 4x - 5$, $LK = 3x + 8$, and $m\angle J = 2x + 4$. Find $m\angle L$.

- 3. Find $m\angle ABC$.



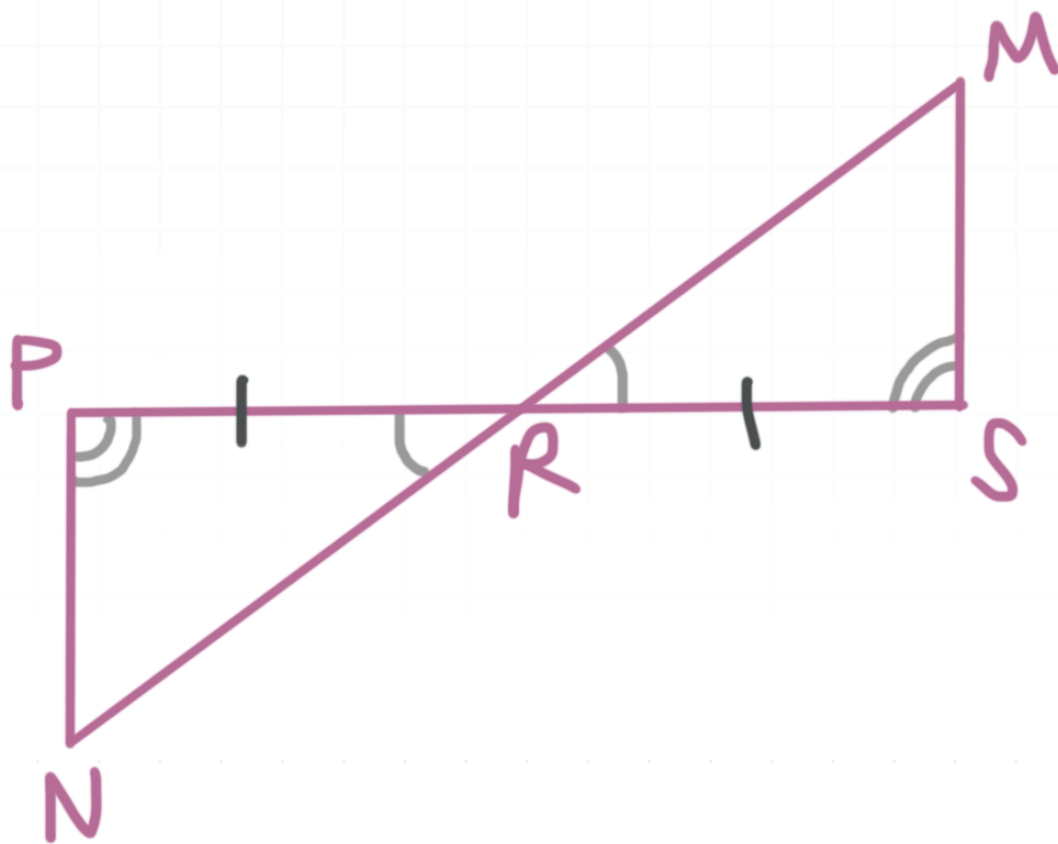


4. Find x .



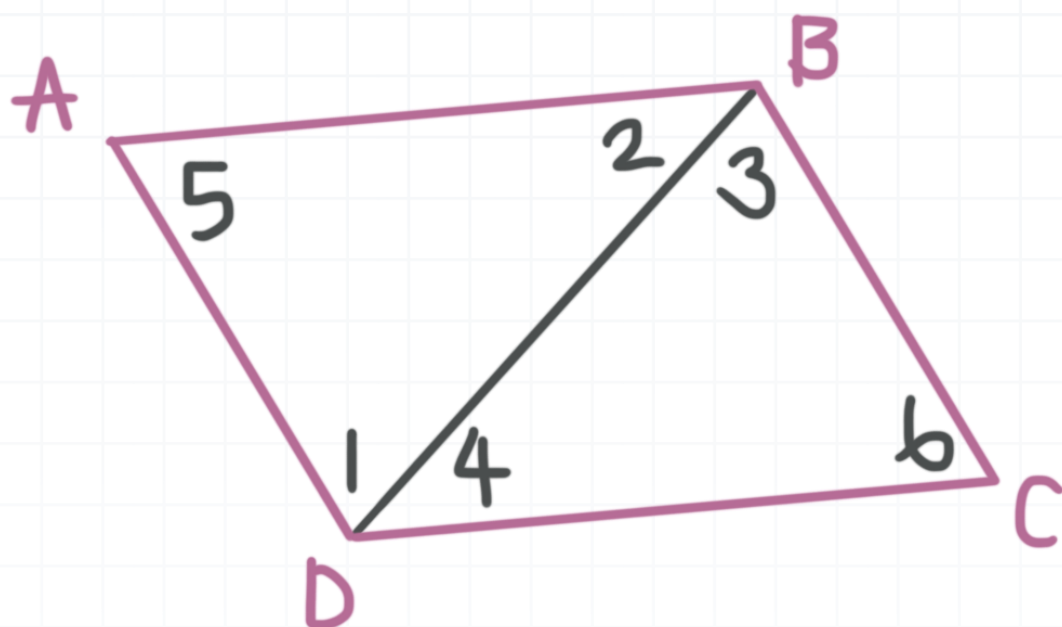
CPCTC

- 1. Fill in the blank. Given $\triangle LMO \cong \triangle SQR$, $\overline{LO} \cong$ _____.
- 2. Determine whether $\angle M \cong \angle N$. Justify your answer.

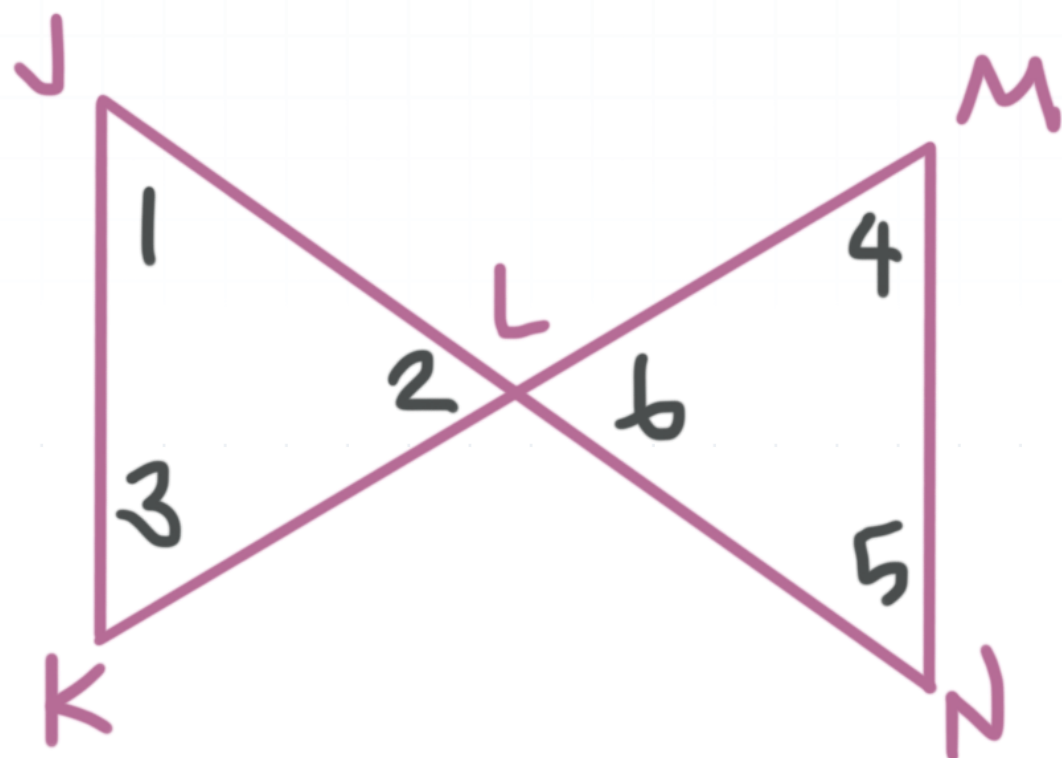


- 3. $\triangle DOG \cong \triangle TCA$ by SSS . What three conclusions can be drawn by CPCTC?
- 4. Given $\angle 1 \cong \angle 3$ and $\angle 2 \cong \angle 4$, prove $\overline{AB} \cong \overline{CD}$.





- 5. Given that L is the midpoint of \overline{JN} and \overline{KM} , prove $\overline{JK} \cong \overline{NM}$.



- 6. Given that $\triangle CAB$ is an isosceles triangle, that D is the midpoint of \overline{CE} , and that E is the midpoint of \overline{BD} , prove that $\triangle DAE$ is isosceles.



