Geometry Workbook

Similarity

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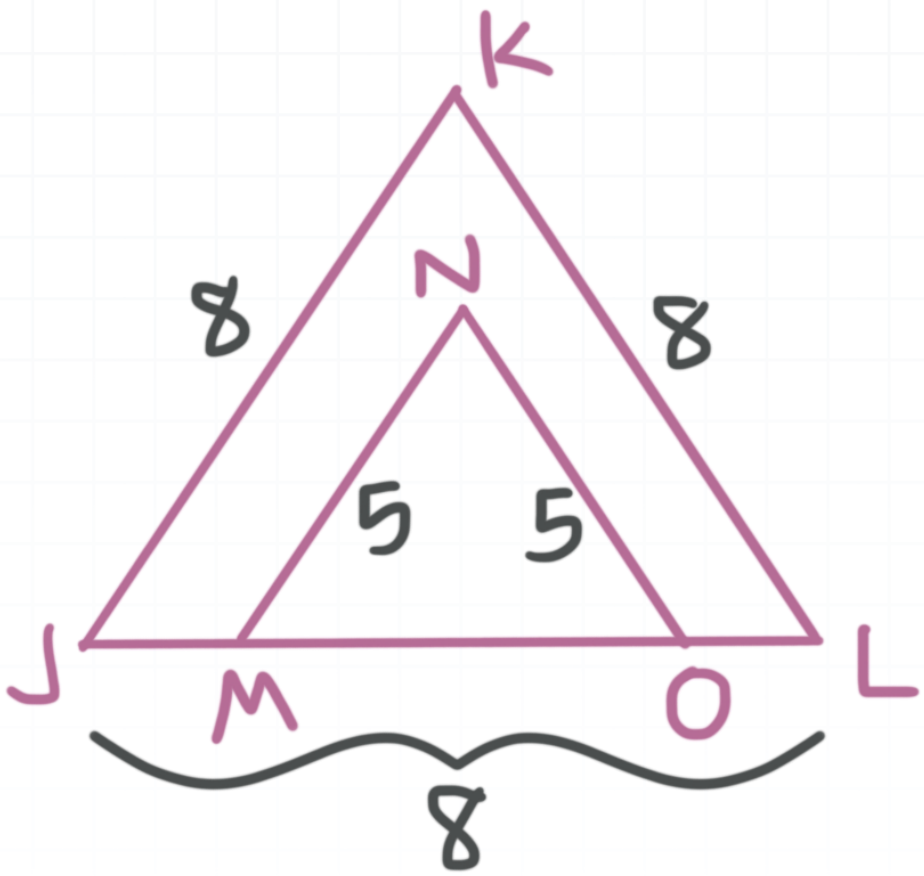
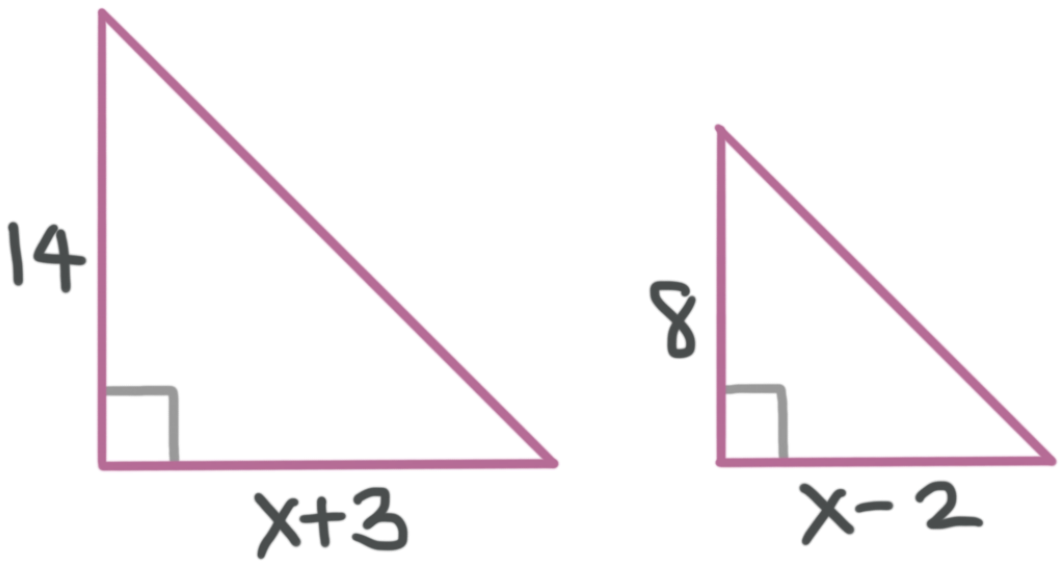
MATH

SIMILAR TRIANGLES

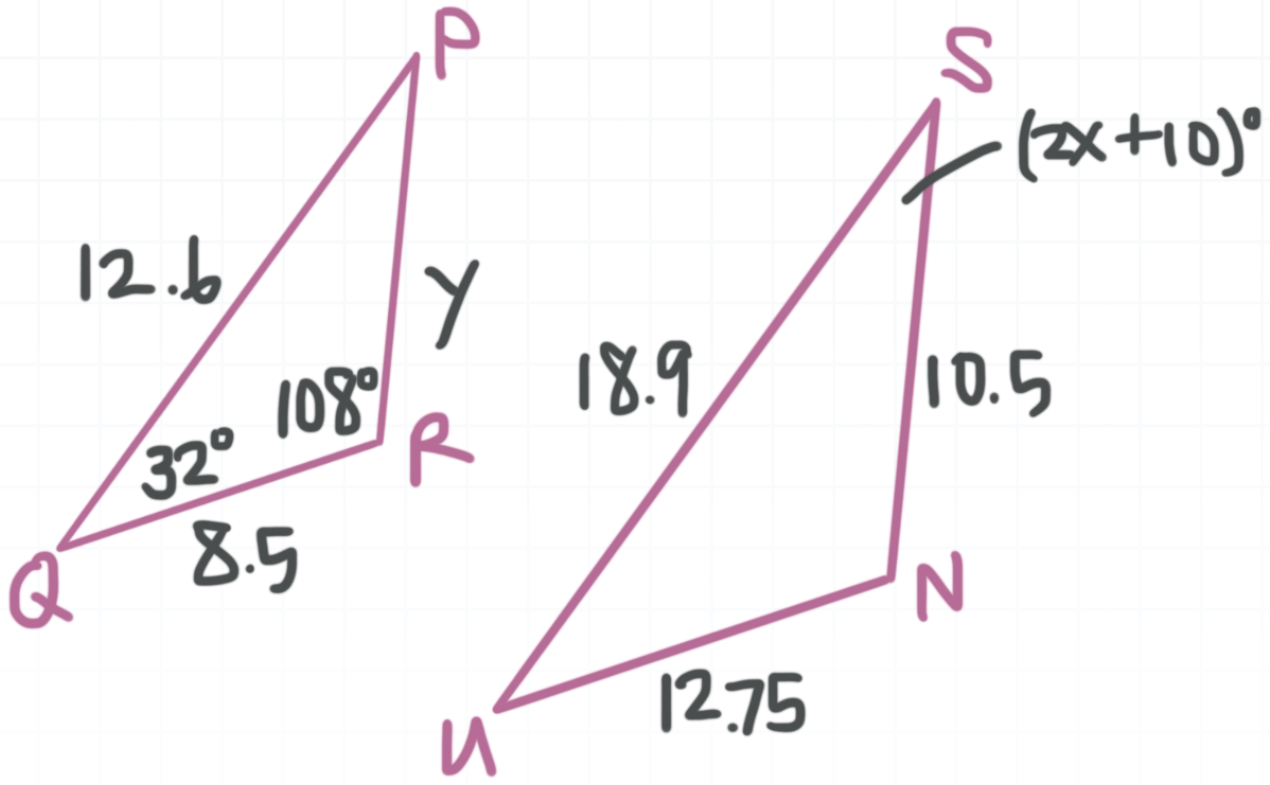
■ 1. $\triangle JKL$ is similar to $\triangle MNO$. Find MO.



■ 2. $\triangle ABC$ is similar to $\triangle DEF$. Set up a proportion to find the value of x.

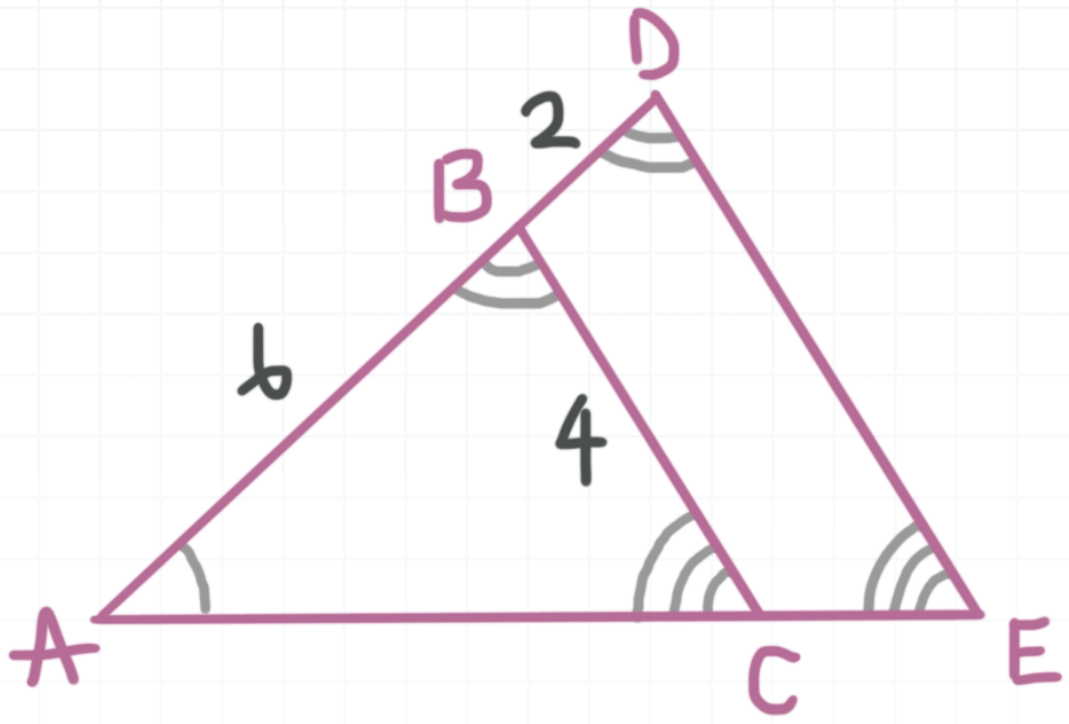


■ 3. $\triangle PQR$ is similar to $\triangle SUN$. Find the values of x and y.

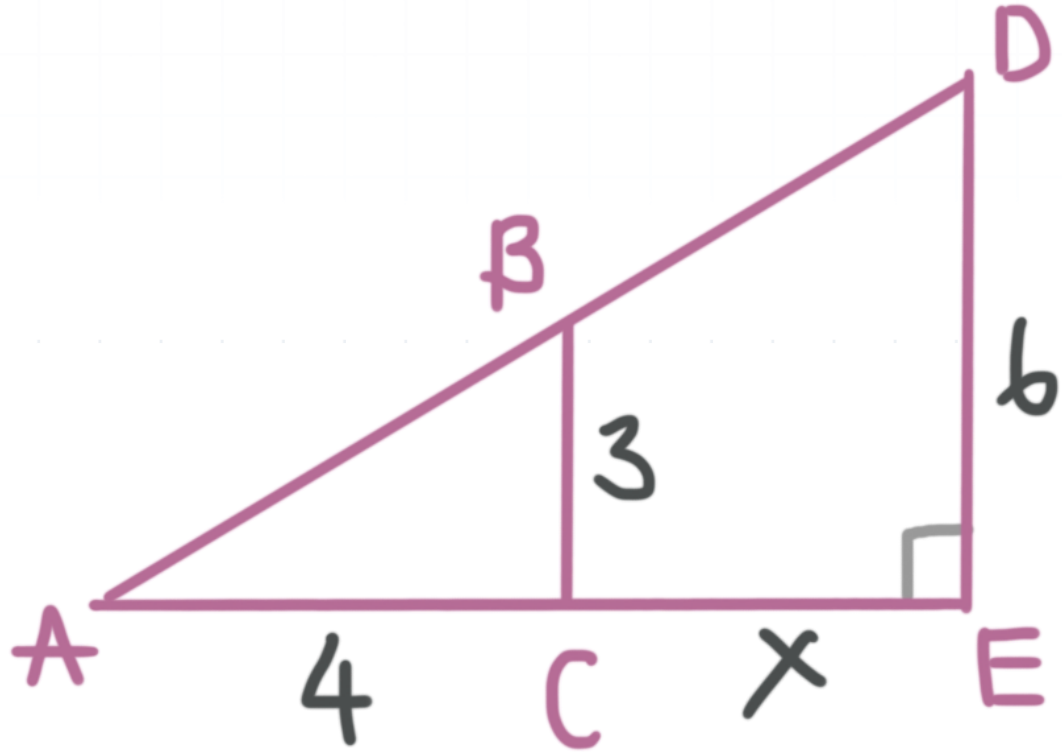


■ 4. A 14-foot tree casts a 6-foot long shadow. A 3.5-foot tall child would have a shadow length of how many feet?

■ 5. Find DE.



6. Find CE.

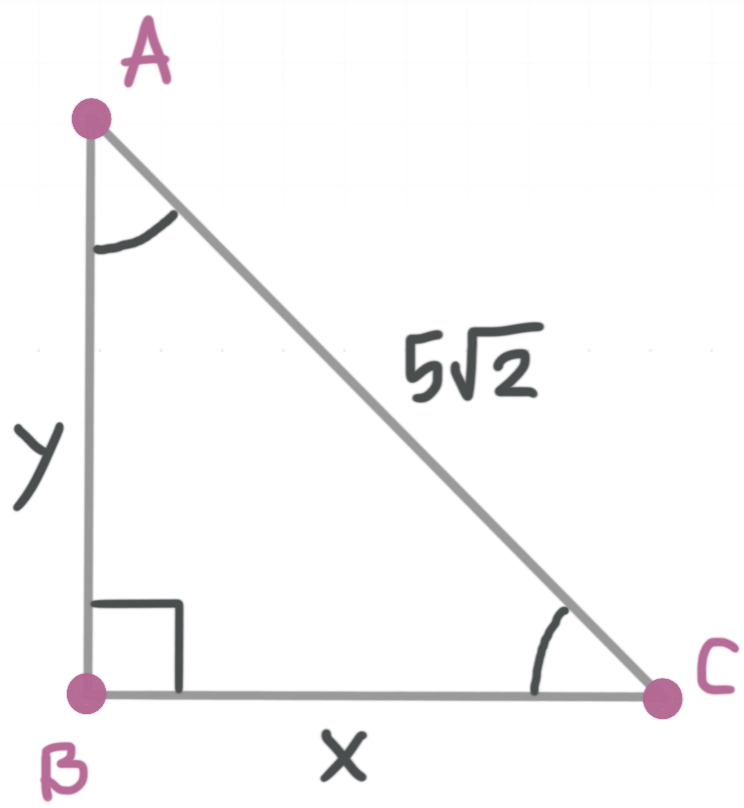


45-45-90 TRIANGLES

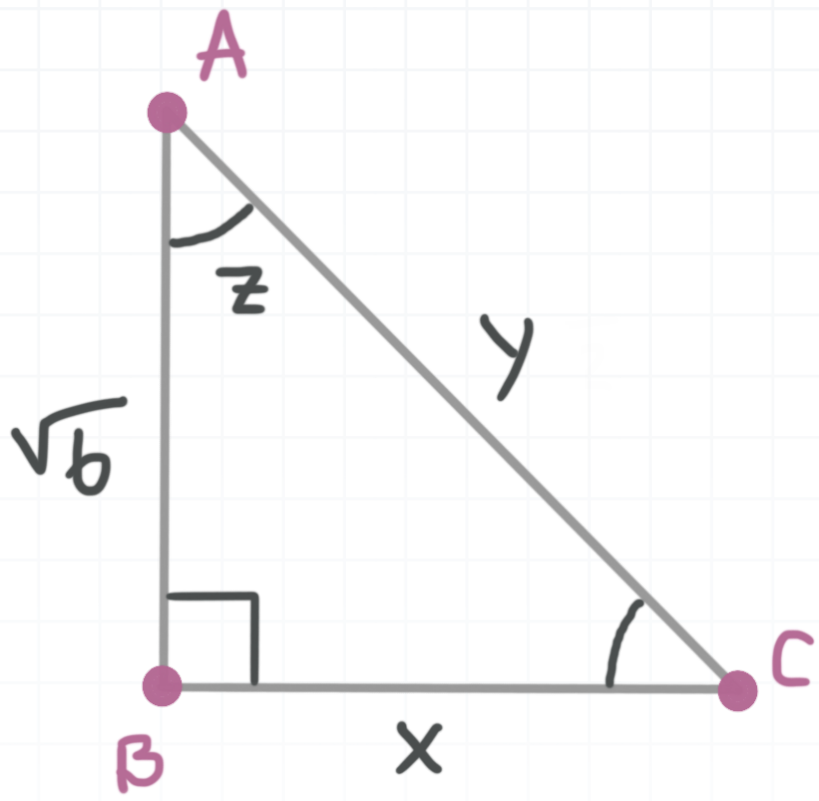
■ 1. $\triangle PDX$ is an isosceles right triangle with vertex $\angle D$, and $PD = 4$. Find DX and XP.

■ 2. A square has a perimeter of 40 meters. Find the length of the diagonal of the square.

■ 3. Find the values of x and y.

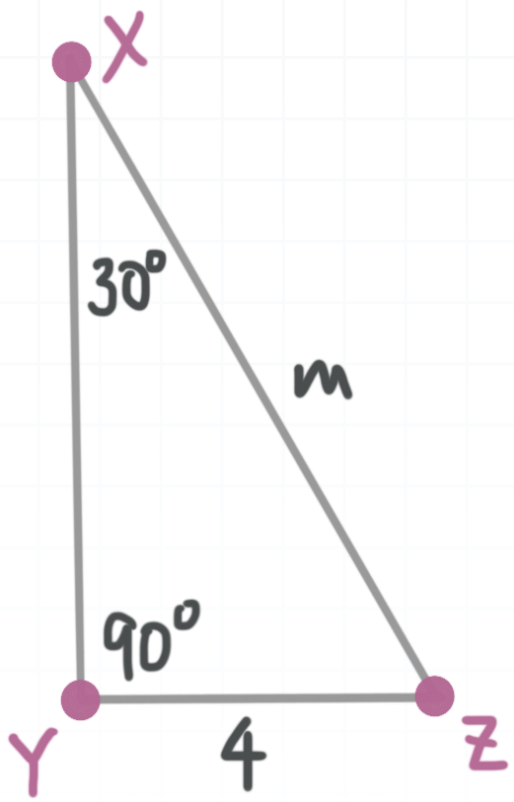


■ 4. Find the values of x, y, and z.

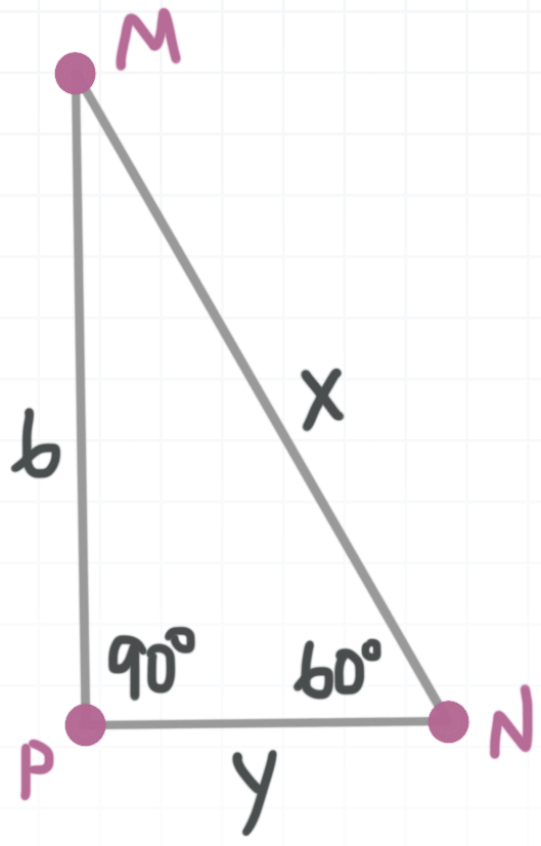


30-60-90 TRIANGLES

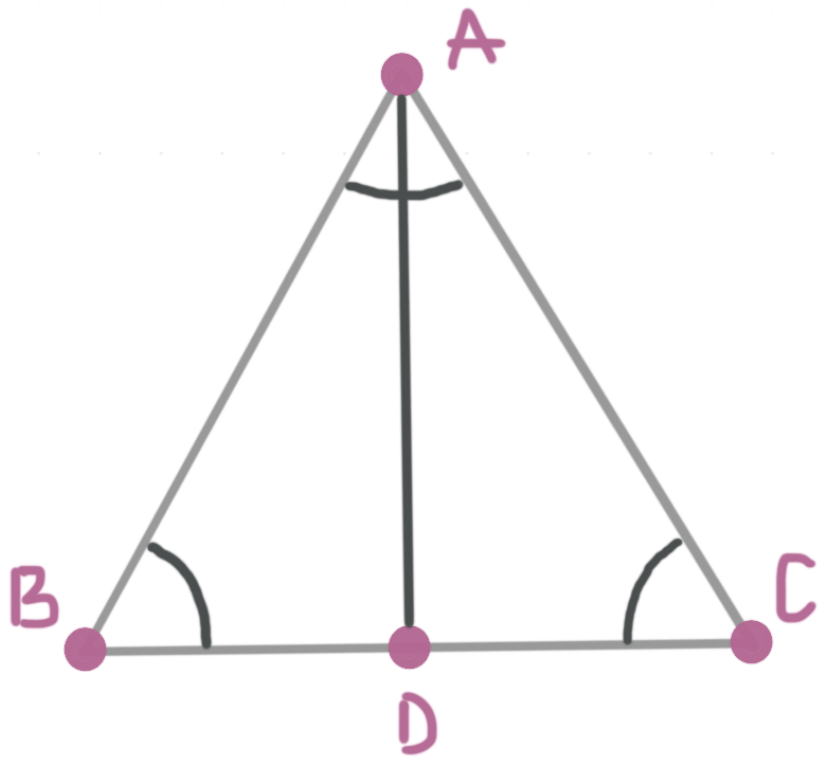
1. Find the value of m in the given triangle.



2. Find the values of x and y in the given triangle.

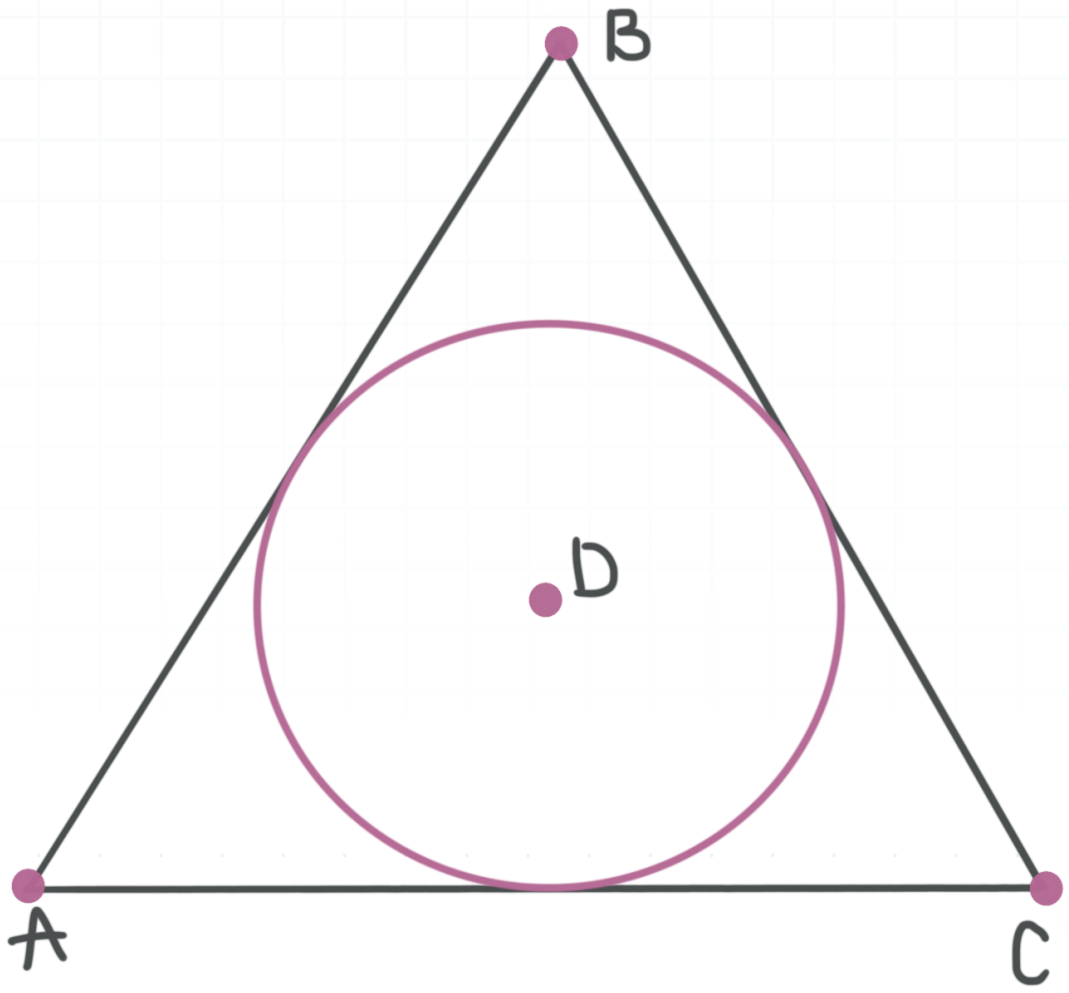


■ 3. $\triangle BAC$ is an equilateral triangle. The perimeter is 42 cm and $m\angle ADC = 90$. Find AD.

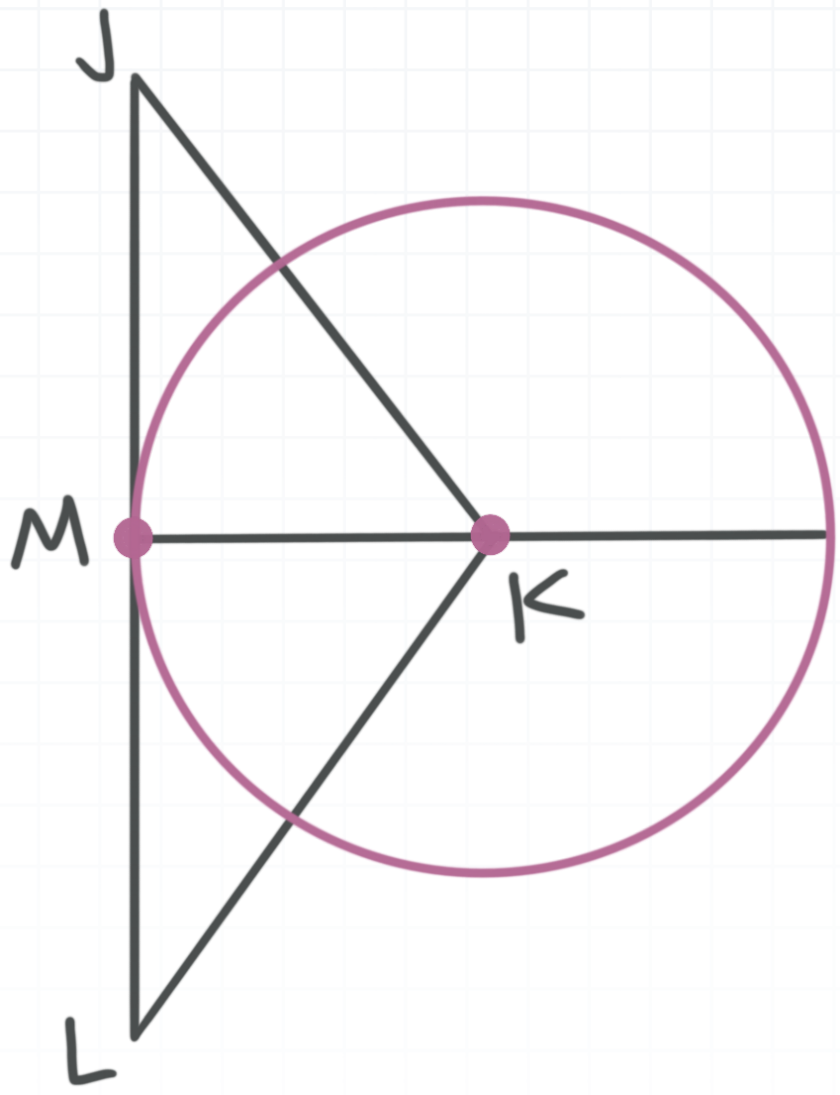


■ 4. $\triangle XYZ$ is an equilateral triangle. $\overline{XM}$ is an altitude, median, and angle bisector of the triangle. If $XM = 9$, find the perimeter of the triangle.

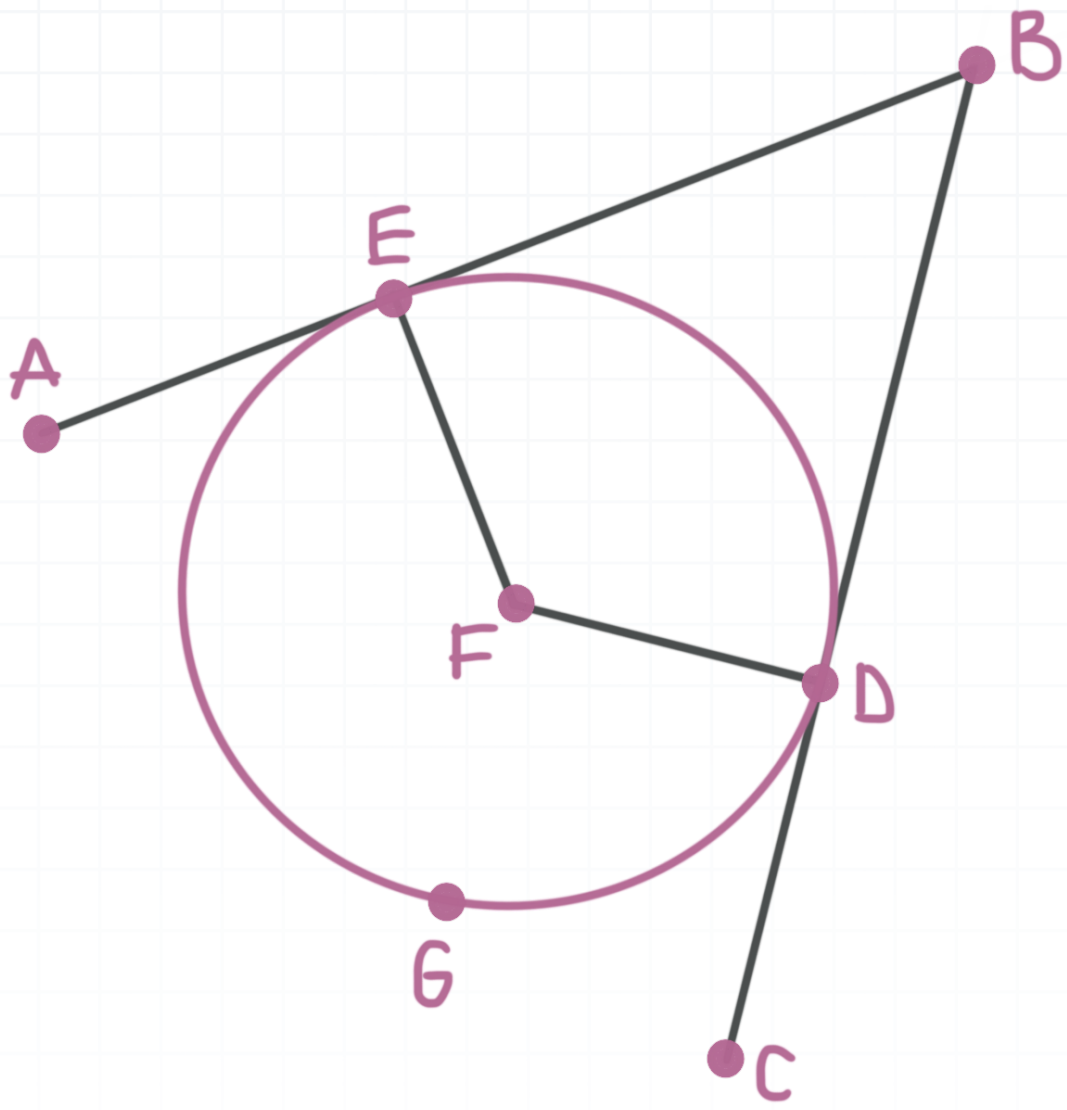
■ 5. Find the perimeter of $\triangle ABC$ if the radius of $\odot D$ is 10 feet and $\triangle ABC$ is equilateral.



■ 6. $\triangle JKL$ is isosceles, $\overline{JL}$ is a tangent line, $JM = LM$ and $m\angle JKL = 120°$. If $MK = 8$, find JL.

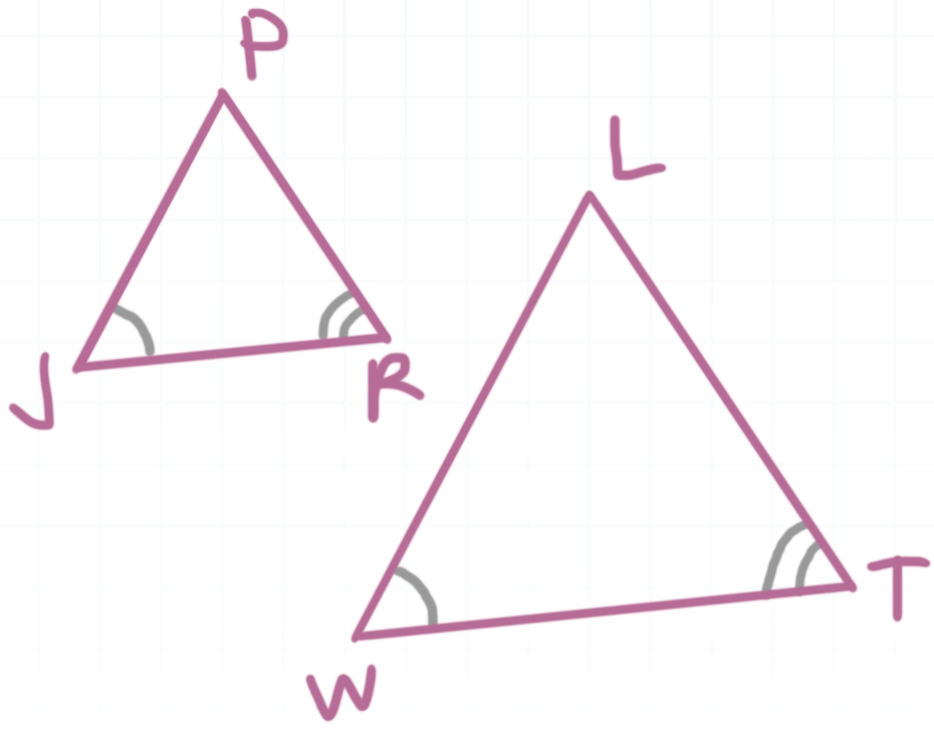


7. Arc $EGD = 240°$ and $\overline{BF}$ bisects $\angle EFD$. Find the length of the radius of $\odot F$ if $FB = 14$.

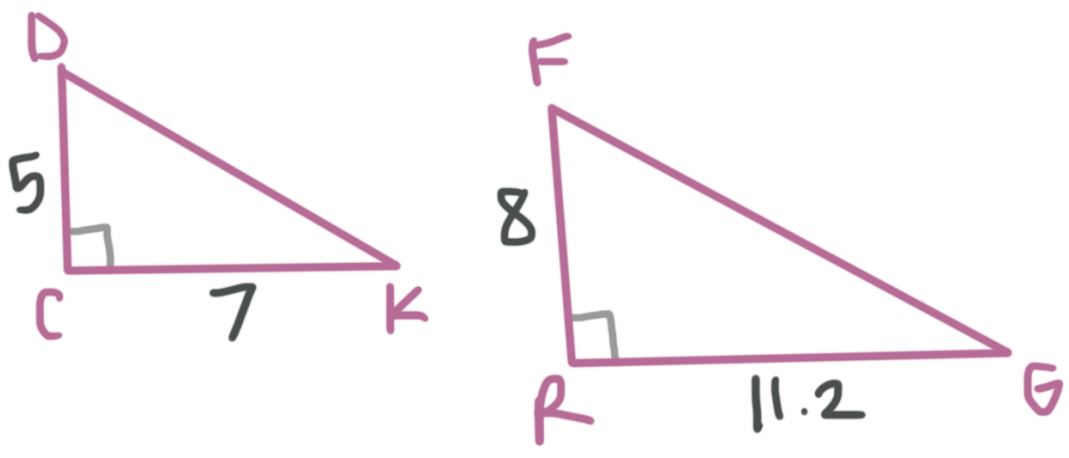


TRIANGLE SIMILARITY THEOREMS

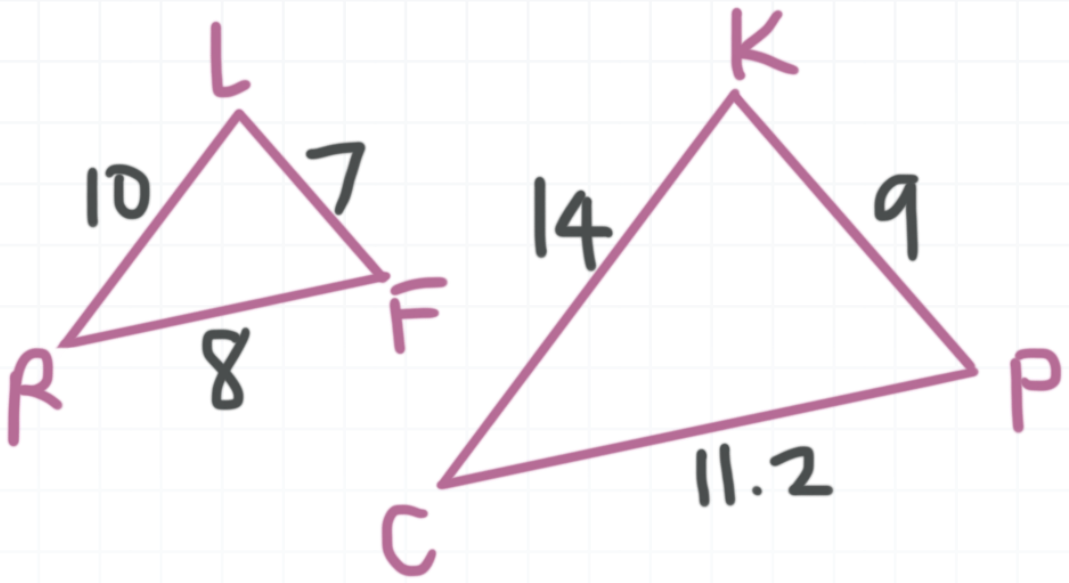
■ 1. Write a similarity statement for the triangles and provide the theorem that proves they're similar.



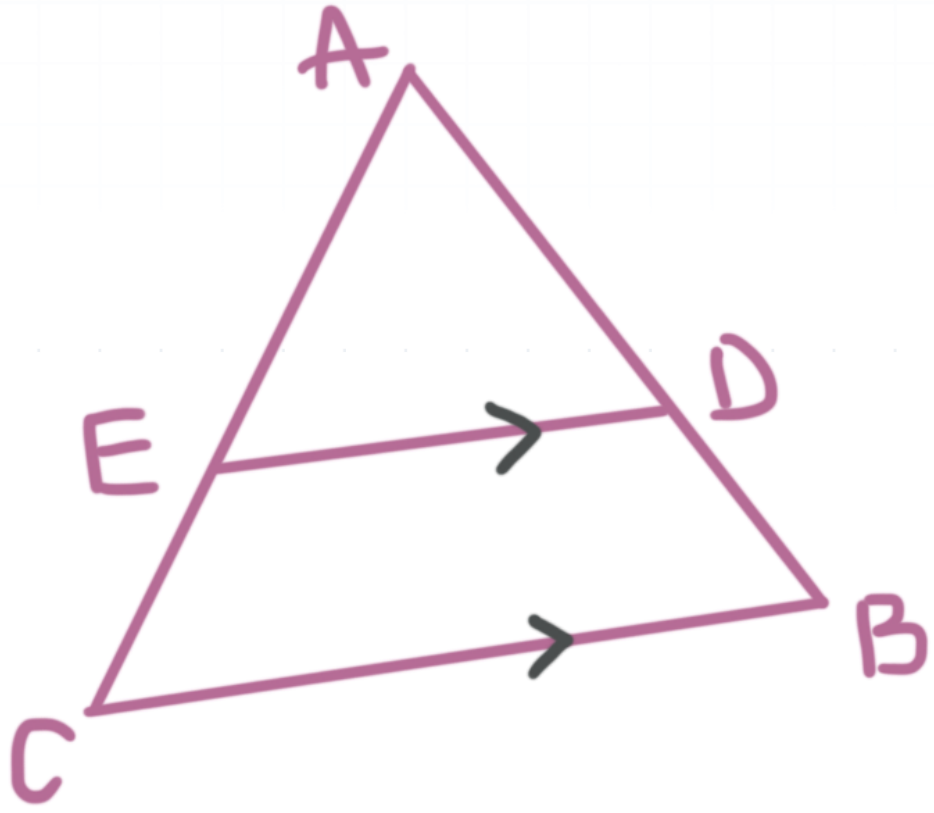
■ 2. Write a similarity statement for the triangles and provide the theorem that proves they're similar.



■ 3. Is $\triangle RLF \sim \triangle CKP$? Explain.

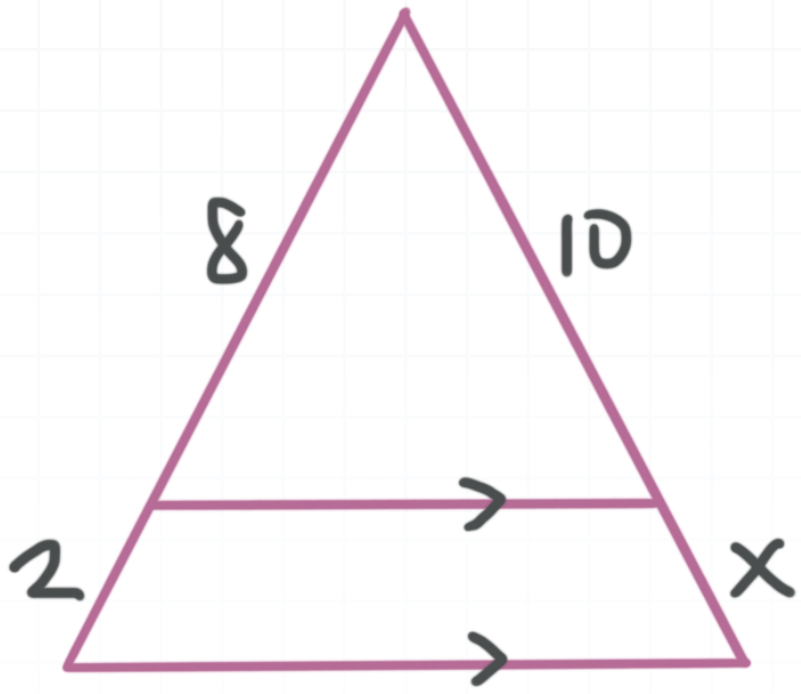


■ 4. Prove $\triangle AED \sim \triangle ACB$.

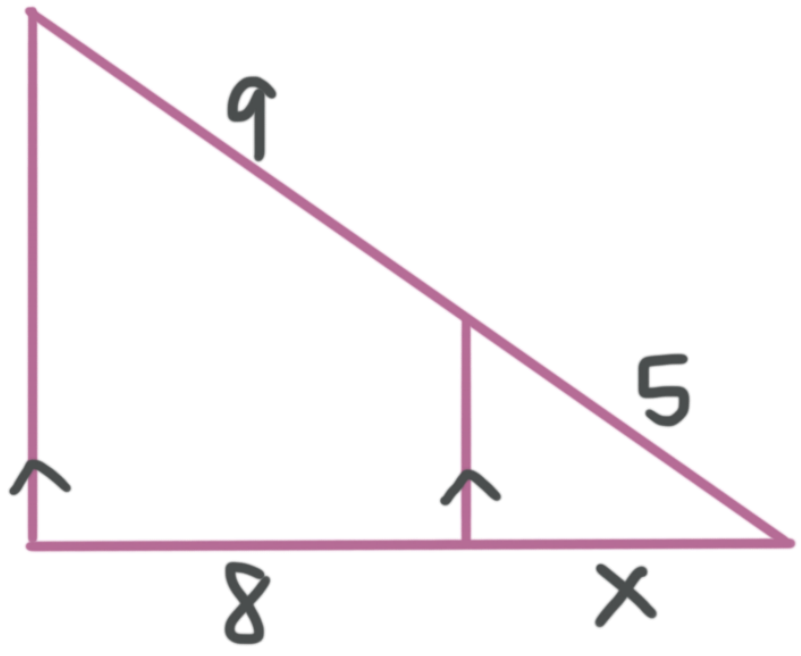


TRIANGLE SIDE-SPLITTING THEOREM

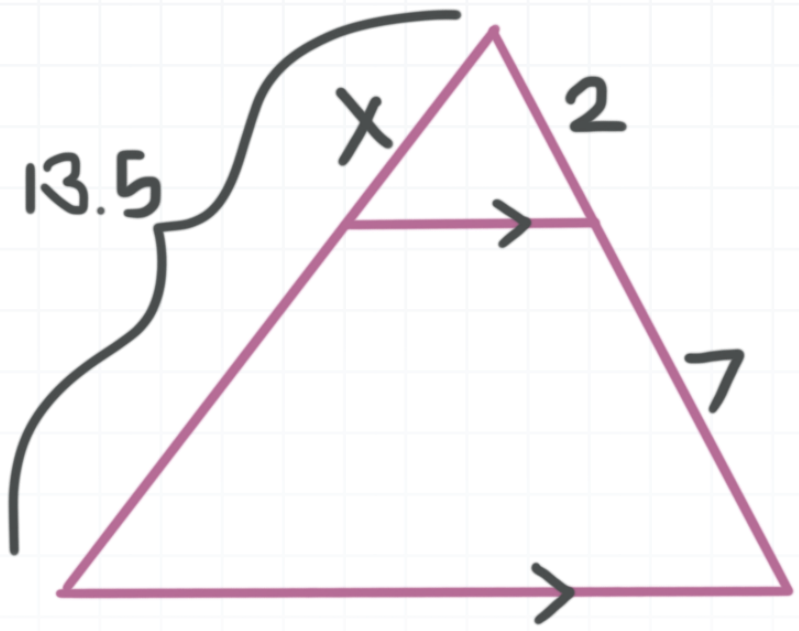
1. Solve for x.



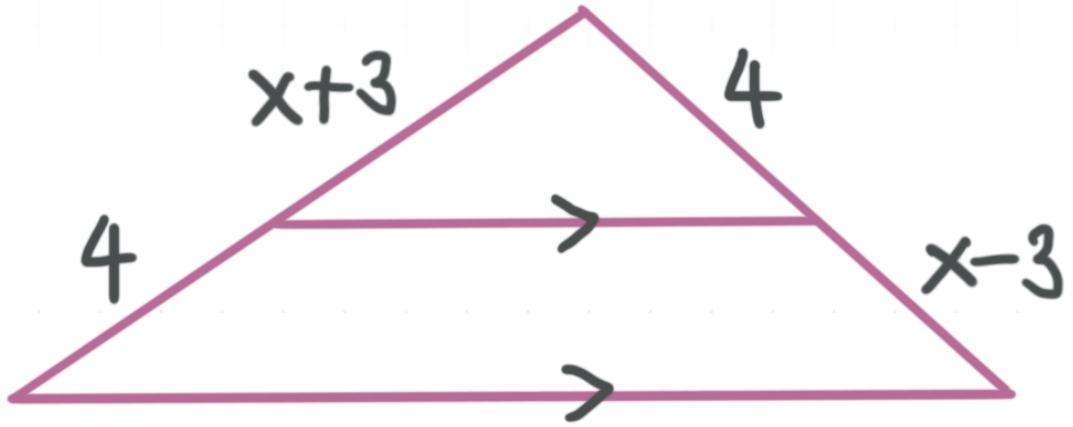
2. Solve for x.



■ 3. Solve for x.

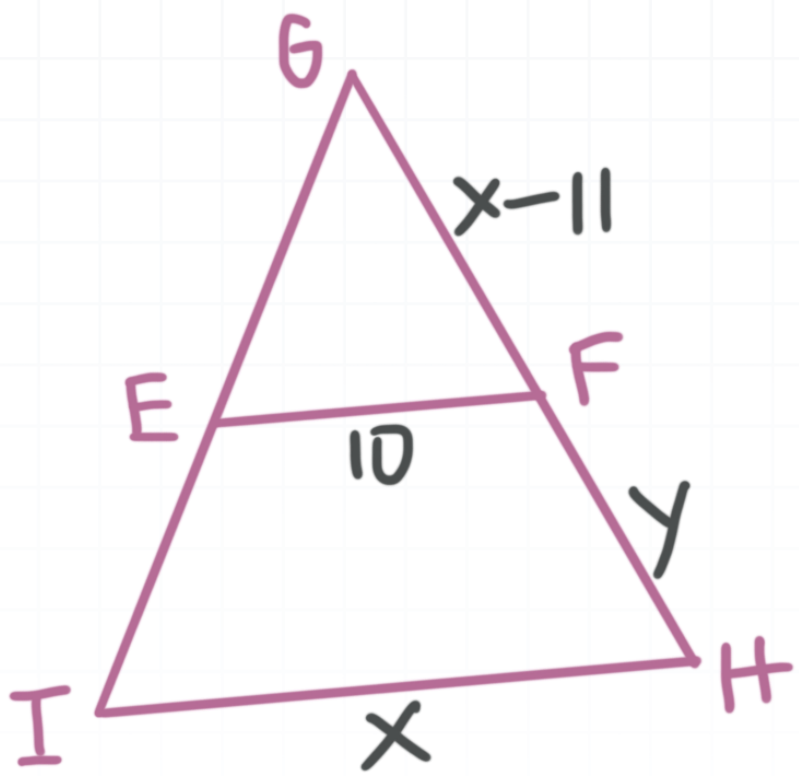


■ 4. Solve for x.

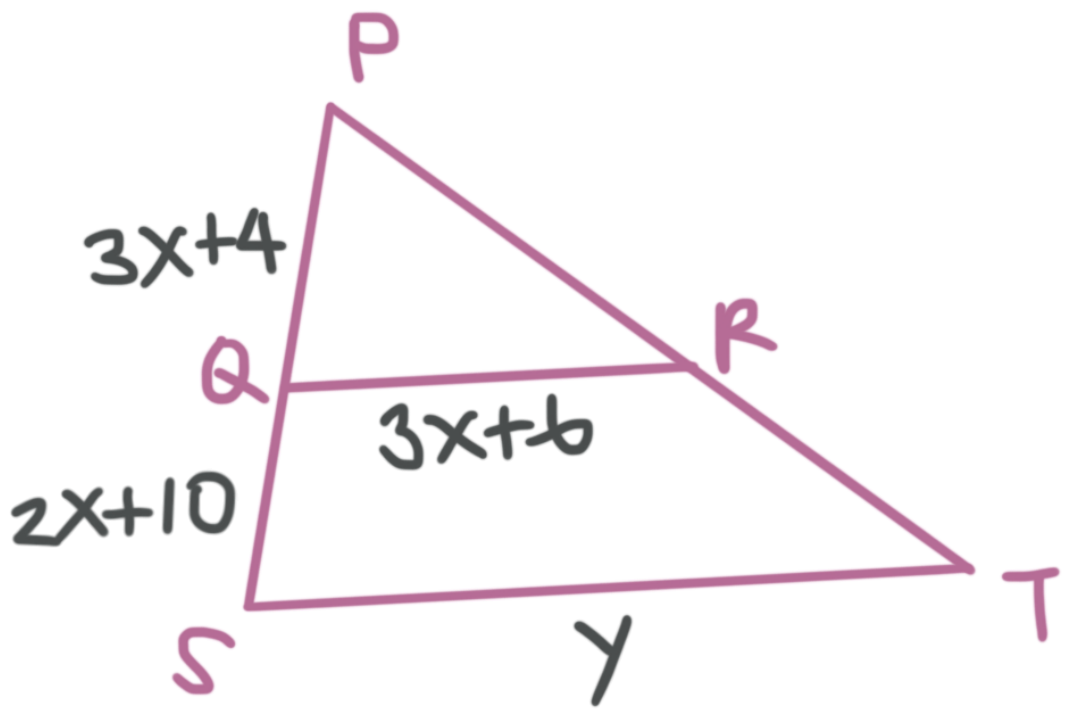


MIDSEGMENTS OF TRIANGLES

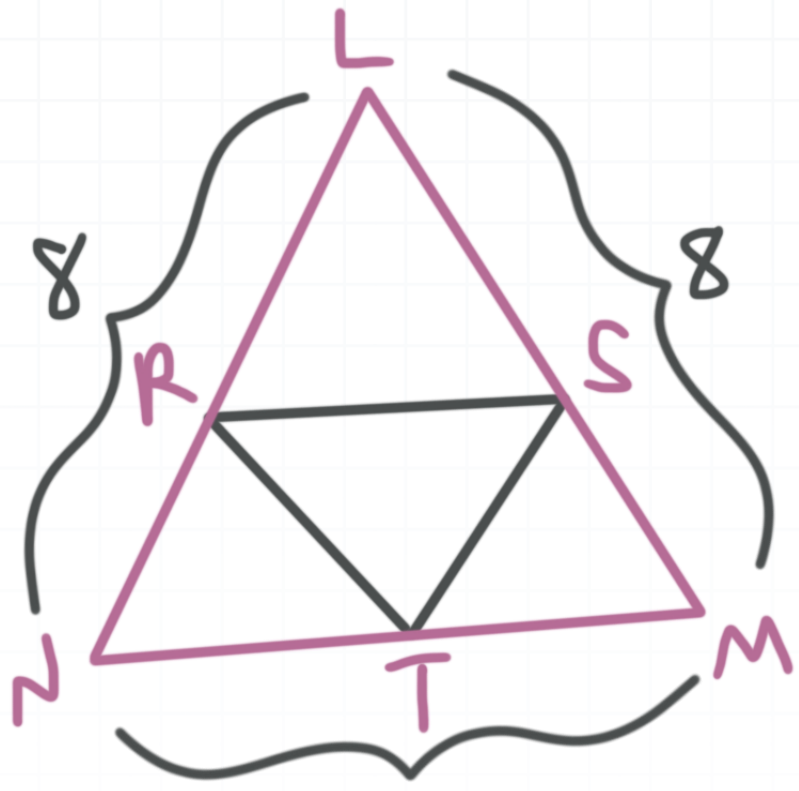
1. $\overline{EF}$ is a midsegment of $\triangle IGH$. Find x and y.



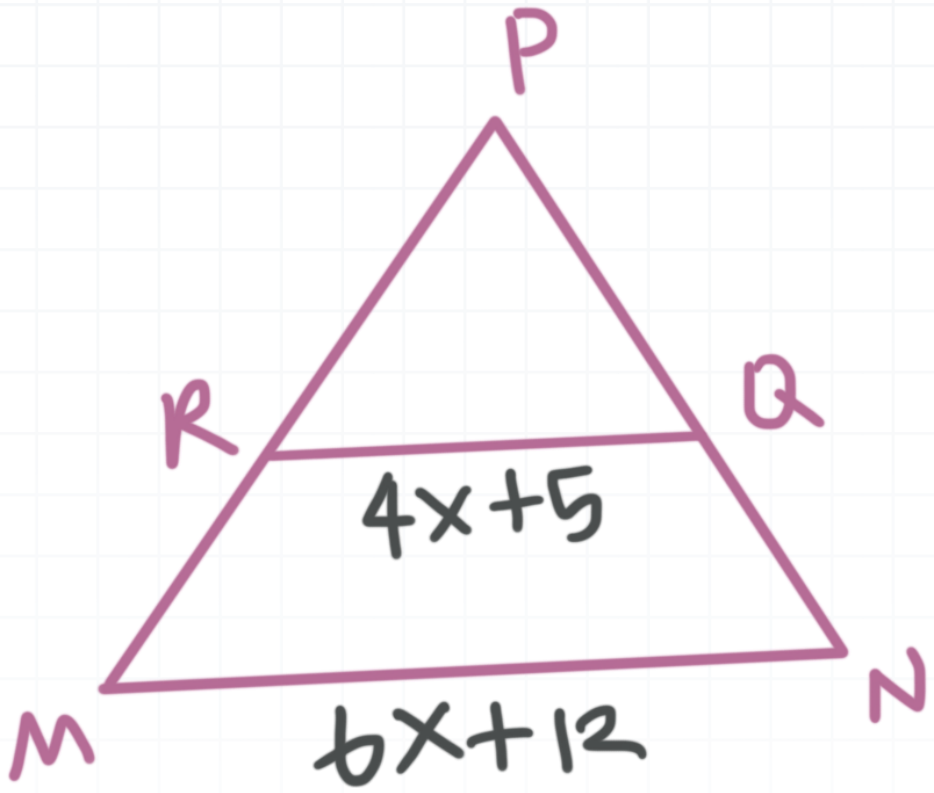
2. $\overline{QR}$ is a midsegment of $\triangle SPT$. Find x and y.



■ 3. $\overline{RS}$, $\overline{ST}$, and $\overline{RT}$ are midsegments of $\triangle NLM$. Find the perimeter of quadrilateral $RTMS$.

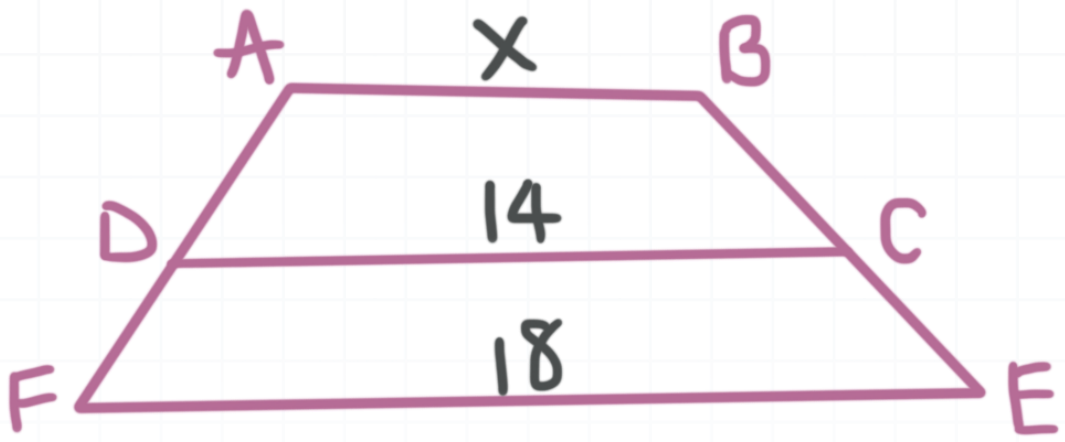


■ 4. $\overline{RQ}$ is a midsegment of $\triangle MPN$. Find x and MN.

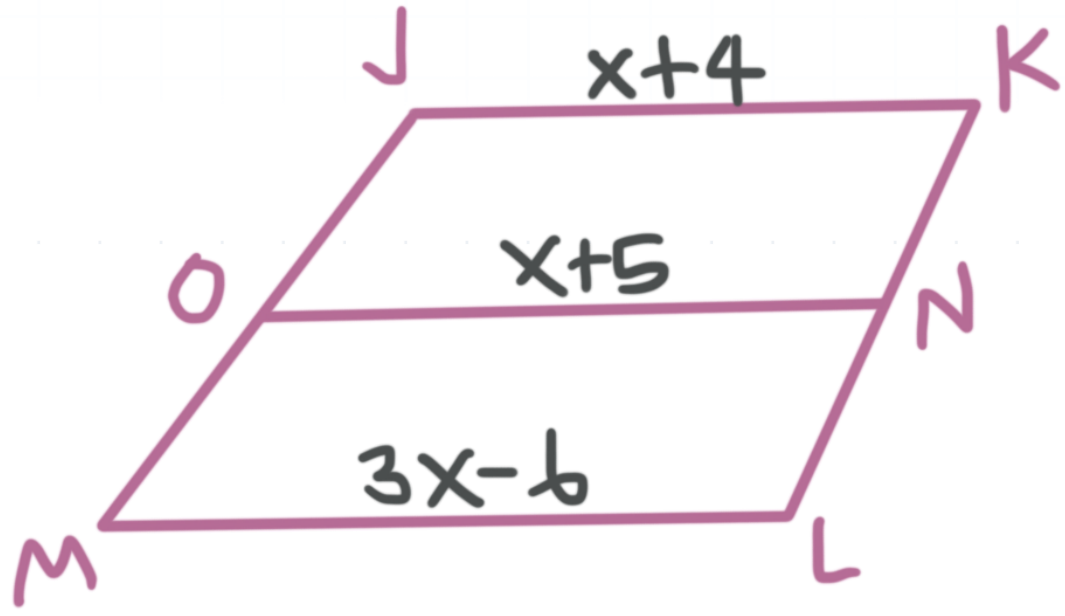


MIDSEGMENTS OF TRAPEZOIDS

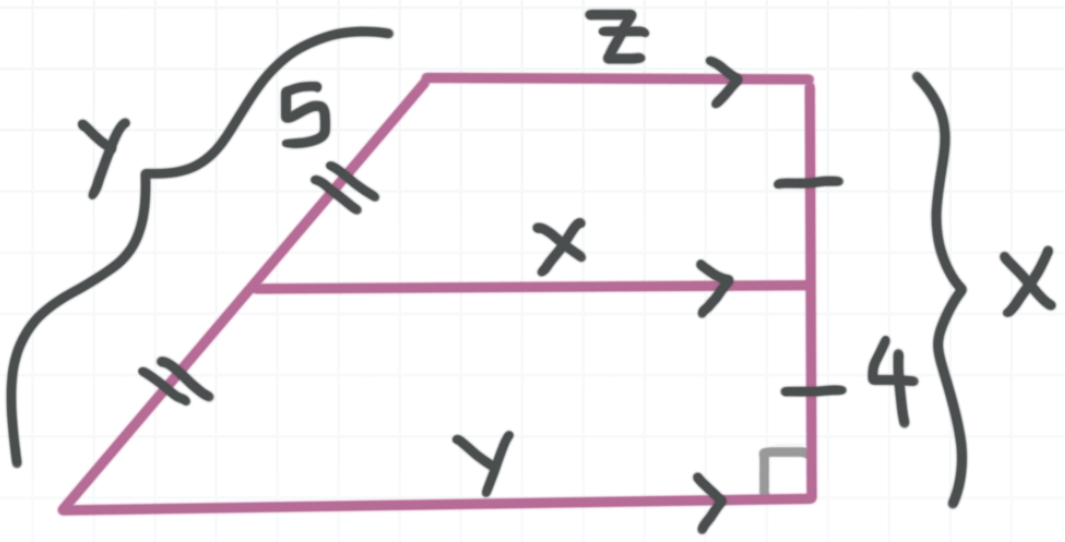
■ 1. The trapezoid has midsegment $\overline{DC}$. Find the value of x.



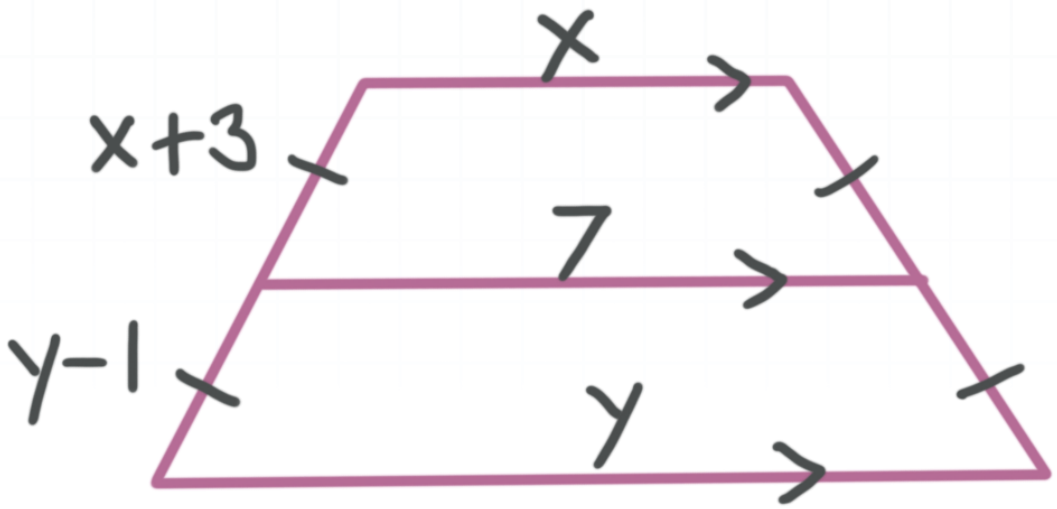
■ 2. $\overline{ON}$ is a midsegment of trapezoid $JKLM$. Find JK, ON, and ML.

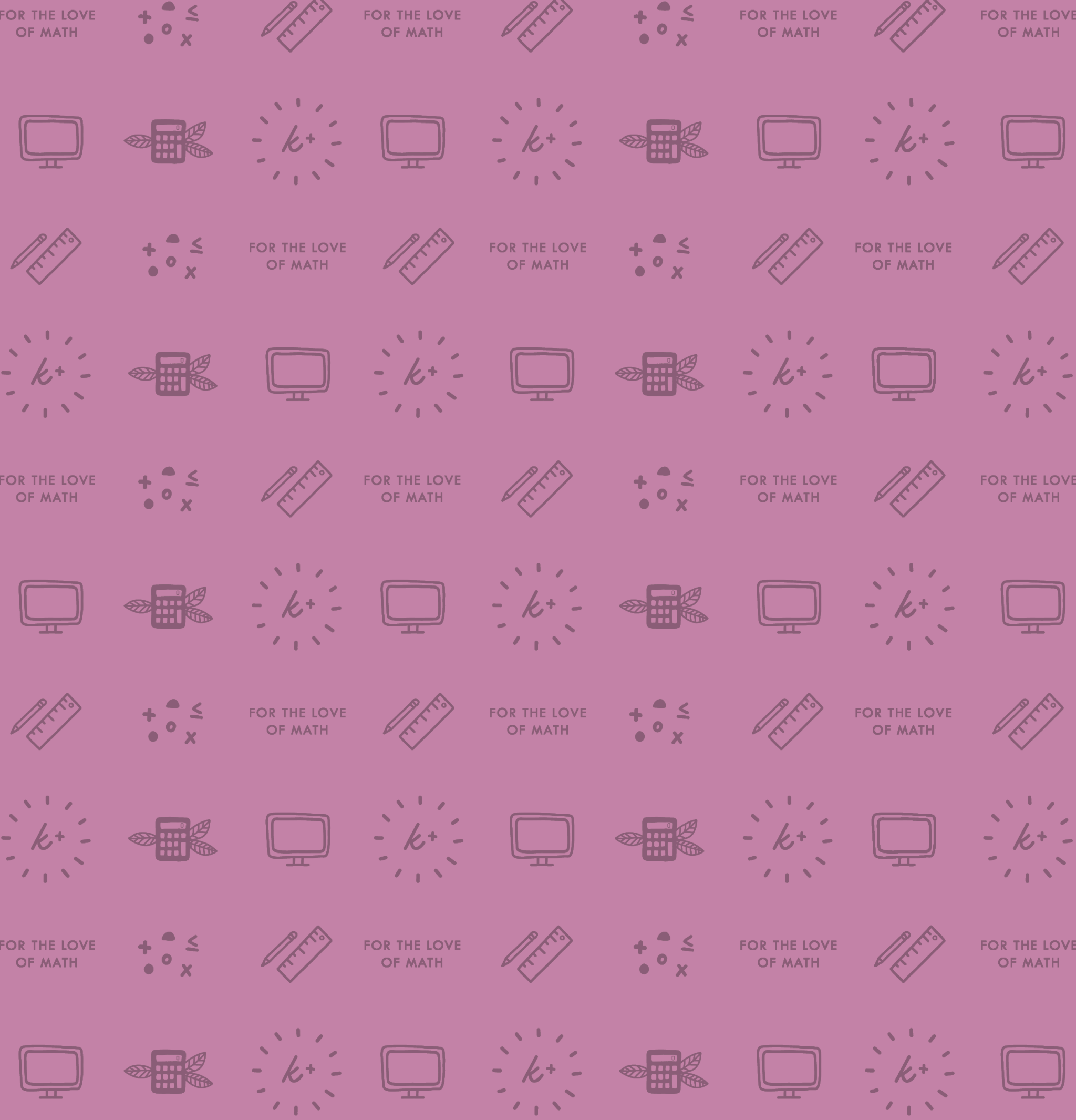


■ 3. Find x, y, and z.



4. Find x and y.





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