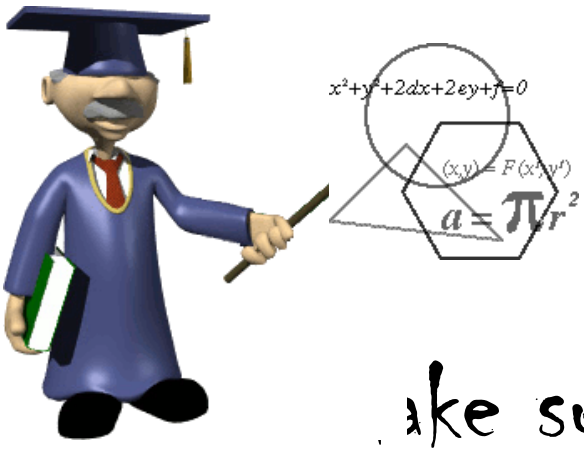
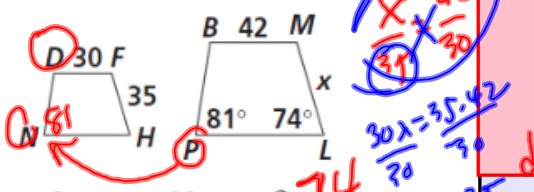


Good Morning!

ake sure ur rdy2go

when the bell rings!

Use the trapezoids below for Exercises 1–3. *DFHN* ~ *BMLP*. Complete each statement.

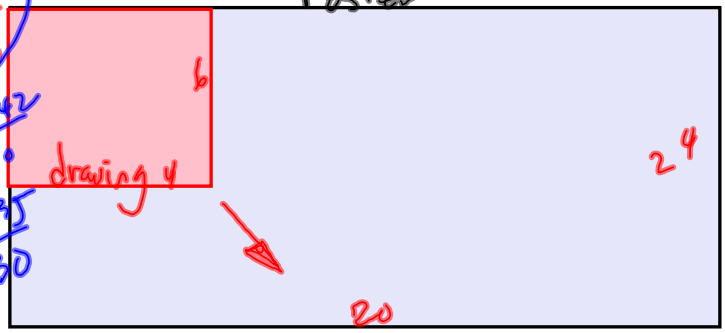


1. $m\angle H =$? 74

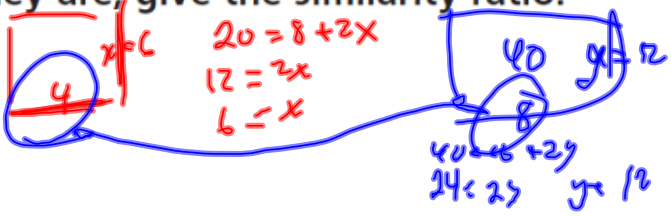
2. $x =$? 49

3. $m\angle D =$? 99

4. A 4-in. by 6-in. drawing is enlarged to fit on a poster that measures 20 in. by 24 in. What are the dimensions of the largest drawing possible? 16:24



5. A rectangle with perimeter 20 cm has a side 4 cm long. A rectangle with perimeter 40 cm has a side 8 cm long. Determine whether the rectangles are similar. If they are, give the similarity ratio. If they are not, explain.



What are the requirements for polygon similarity?

What are the requirements for polygon similarity?

- All corresponding ∠'s are ≅

What are the requirements for polygon similarity?

- All corresponding ∠'s are ≅
- All corresponding sides are proportional

What are the requirements for Δ similarity?

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅
- All corresponding sides are proportional

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅
- All corresponding sides are proportional

Can we get away with less?

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅
- All corresponding sides are proportional

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅ ... Is this sufficient?
- All corresponding sides are proportional

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅ ... Is this sufficient?
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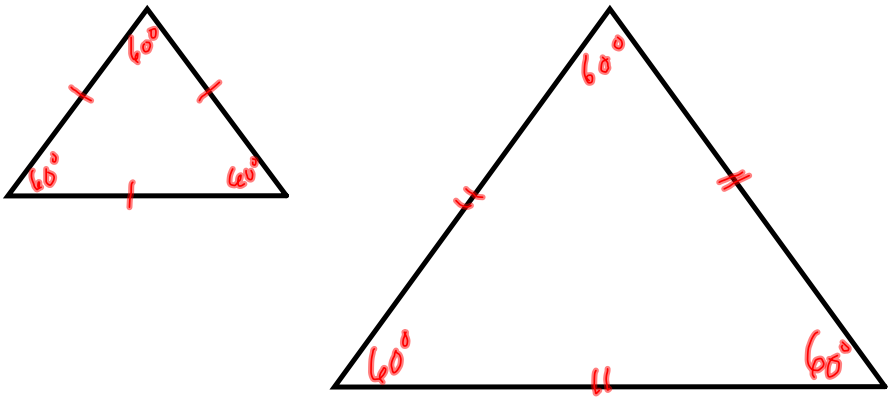
Yup!



What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅ ... Is this sufficient?
- All corresponding sides are proportional

Yup!

Do we need to know all 3 ∠ pairs are ≅?

What are the requirements for Δ similarity?

- All corresponding ∠'s are ≅ ... Is this sufficient?
- All corresponding sides are proportional

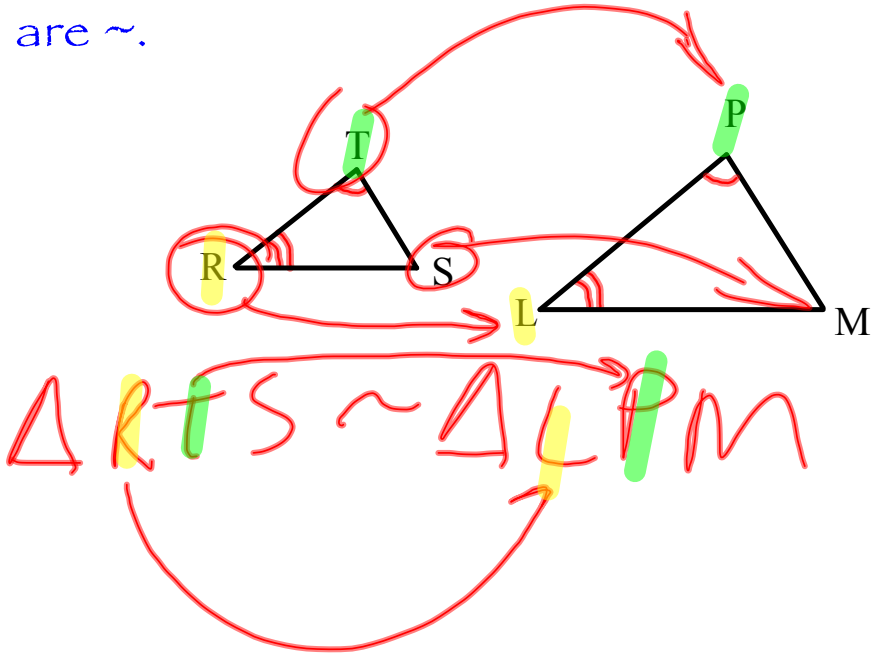
Yup!

Do we need to know all 3 ∠ pairs are ≅?

... what about thm 4-1?

Postulate 8-1: Angle-Angle Similarity (AA~)

If 2 ∠'s of 1 Δ are ≅ 2 ∠'s of another Δ, then the Δ's are ~.



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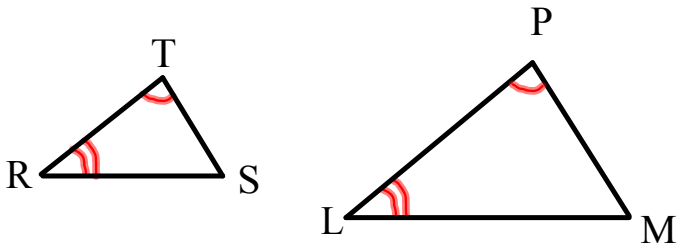
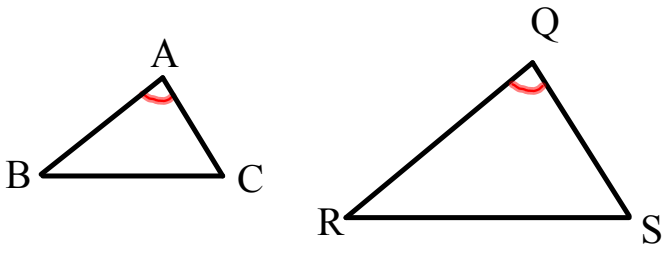


ΔTRS ~ ΔPLM

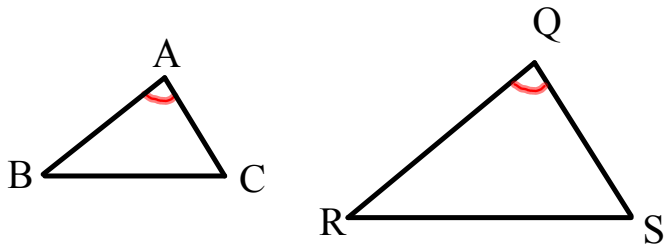
Theorem 8-1: Side-Angle-Side Similarity (SAS~)

If an ∠ of 1 Δ is ≅ an ∠ of another Δ, and the including sides are proportional, then the Δ's are ~.



Theorem 8-1: Side-Angle-Side Similarity (SAS~)

If an ∠ of 1 Δ is ≅ an ∠ of another Δ, and the including sides are proportional, then the Δ's are ~.



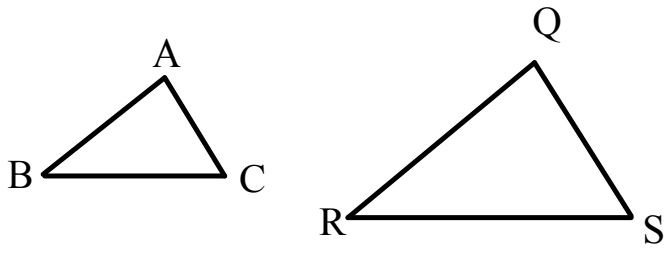
if $\angle A \cong \angle Q$

and $\frac{AB}{QR} = \frac{AC}{QS}$

then $\Delta ABC \sim \Delta QRS$

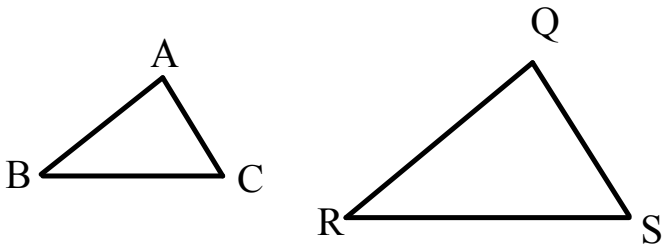
Theorem 8-2: Side-Side-Side Similarity (SSS~)

If the corresponding sides of 2 Δ's are proportional, then the Δ's are ~.



Theorem 8-2: Side-Side-Side Similarity (SSS~)

If the corresponding sides of 2 Δ's are proportional, then the Δ's are ~.

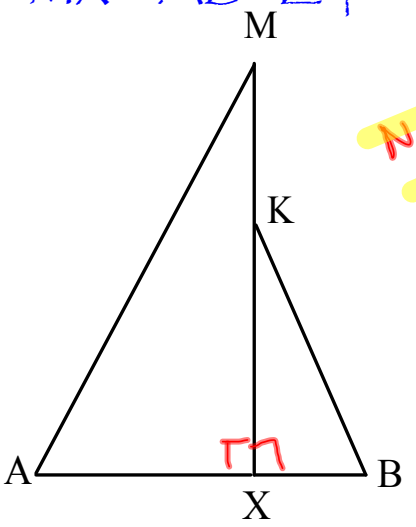


if $\frac{AB}{QR} = \frac{AC}{QS} = \frac{BC}{RS}$

then $\Delta ABC \sim \Delta QRS$

Triangle Similarity Examples

$\overline{MX} \perp \overline{AB}$. Explain why Δ's are ~. Write a similarity statement.

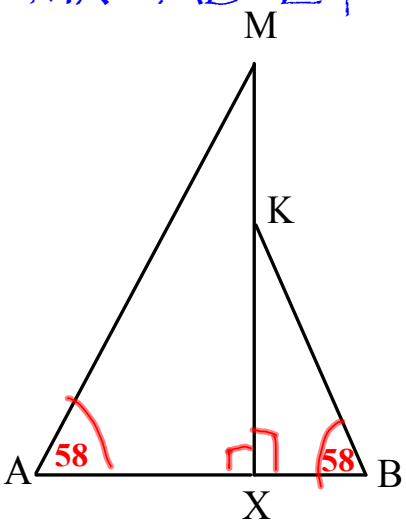


No side info so AA ~ is the only option

hmm ... not enough info only can say 1 pair $\angle$'s $\cong$

Triangle Similarity Examples

$\overline{MX} \perp \overline{AB}$. Explain why Δ's are ~. Write a similarity statement.



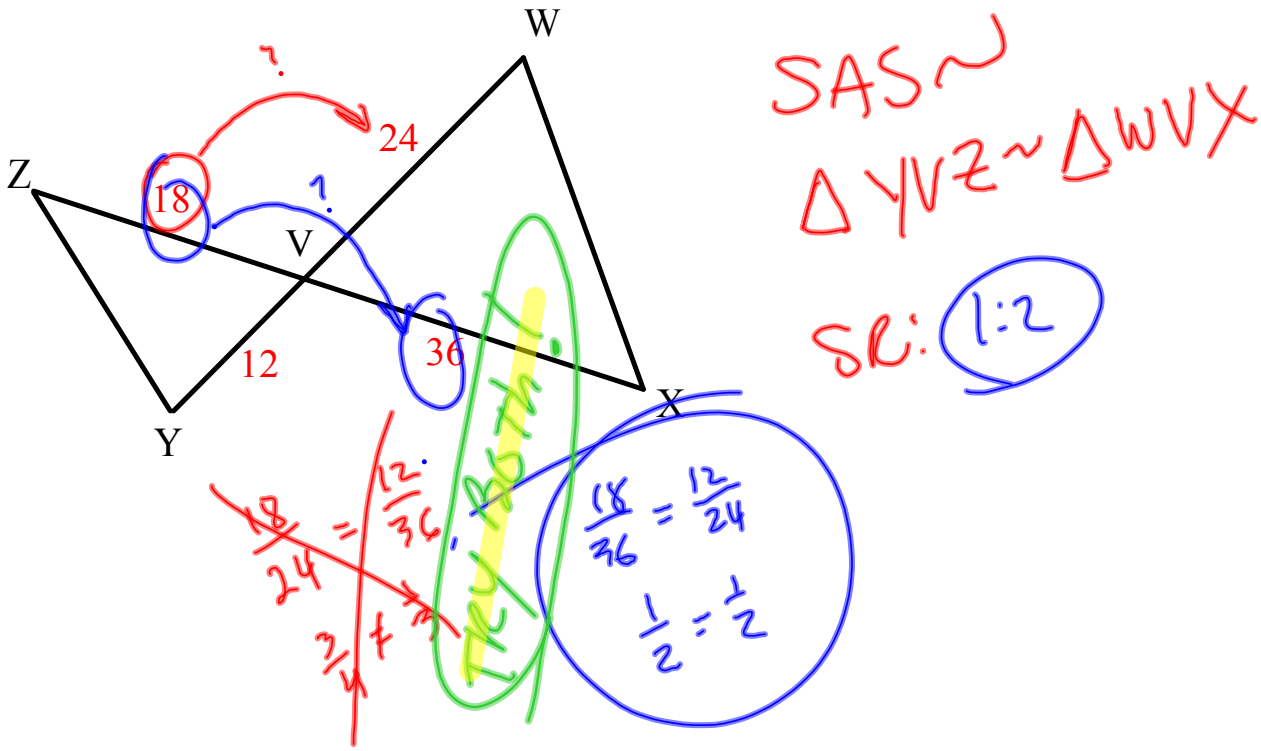
AA ~ Reason Why

$\triangle AMX \sim \triangle BKX$

Similarity Statement

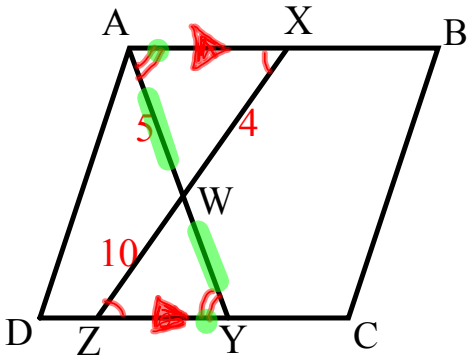
Triangle Similarity Examples

Explain why Δ's must be ~. Write a similarity statement.



Triangle Similarity Examples

ABCD is a parallelogram. Find WY.



First determine which side corresponds to WY . . .

Parallel sides ⇒ Alt int ∠'s ≅

↓

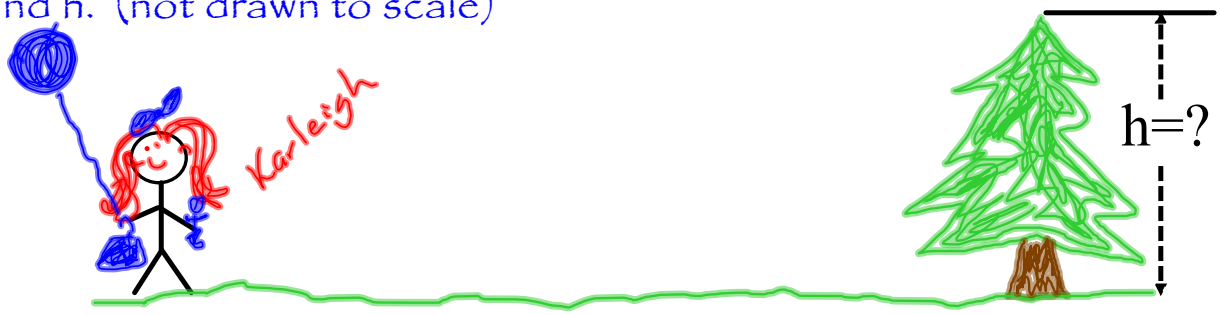
$\frac{WY}{AW} = \frac{WZ}{WX}$

$\frac{WY}{5} = \frac{10}{4}$

$WY = \frac{10 \cdot 5}{4} = 12.5$

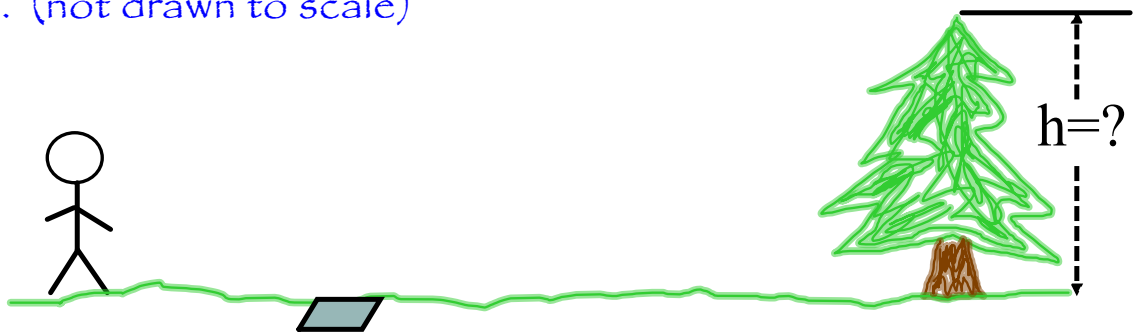
Triangle Similarity Examples - Indirect Measurement

Find h. (not drawn to scale)



Triangle Similarity Examples - Indirect Measurement

Find h. (not drawn to scale)



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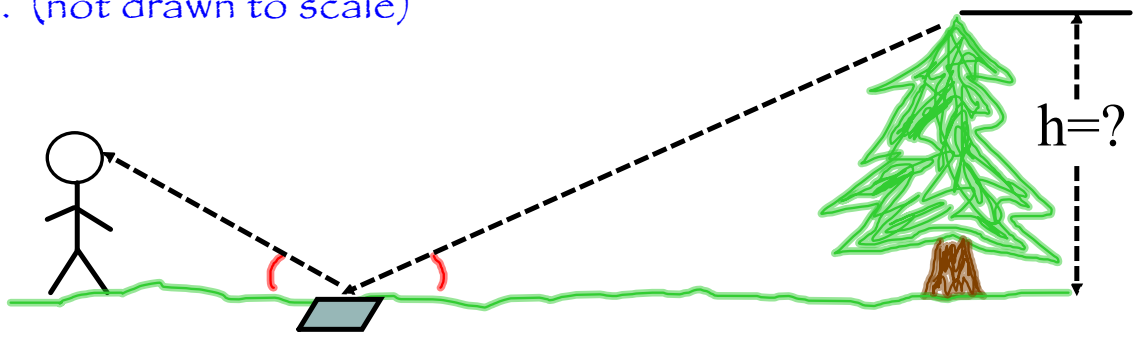

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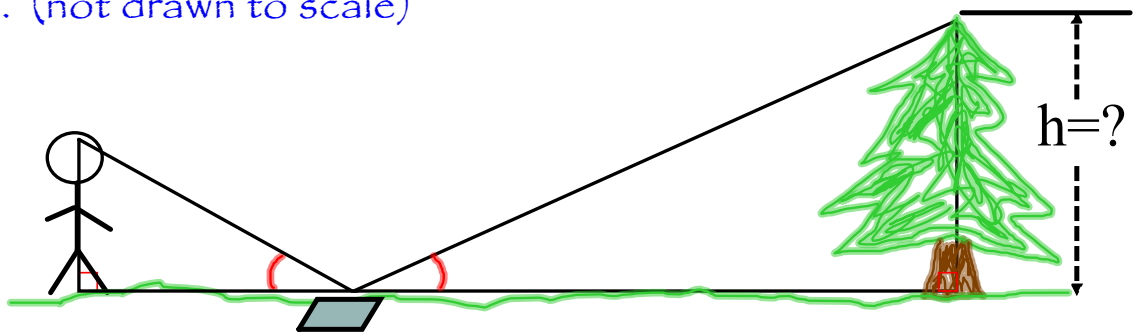

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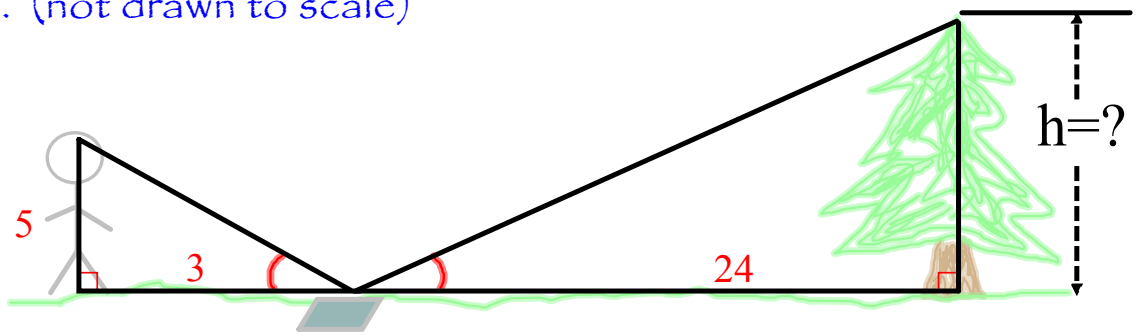

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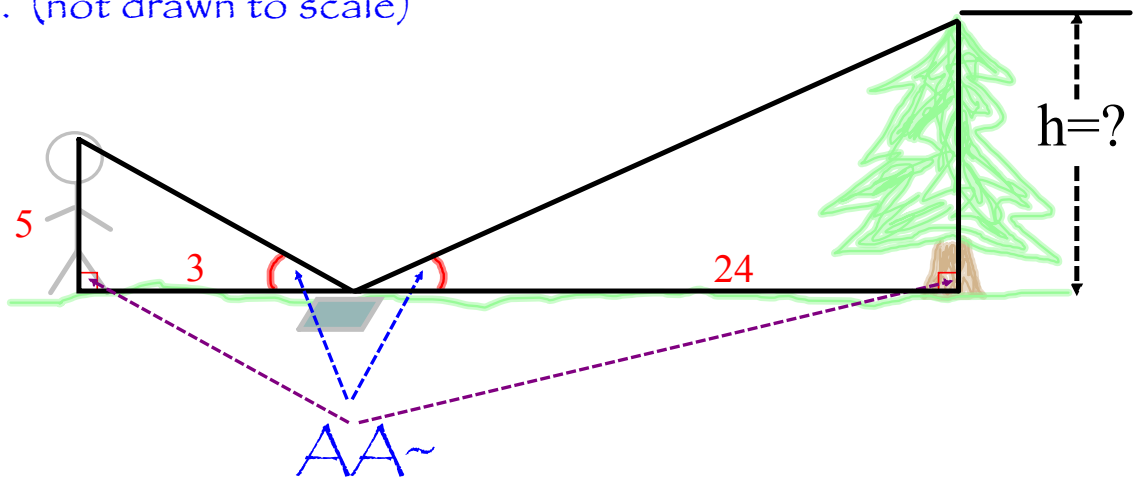

Triangle Similarity Examples - Indirect Measurement

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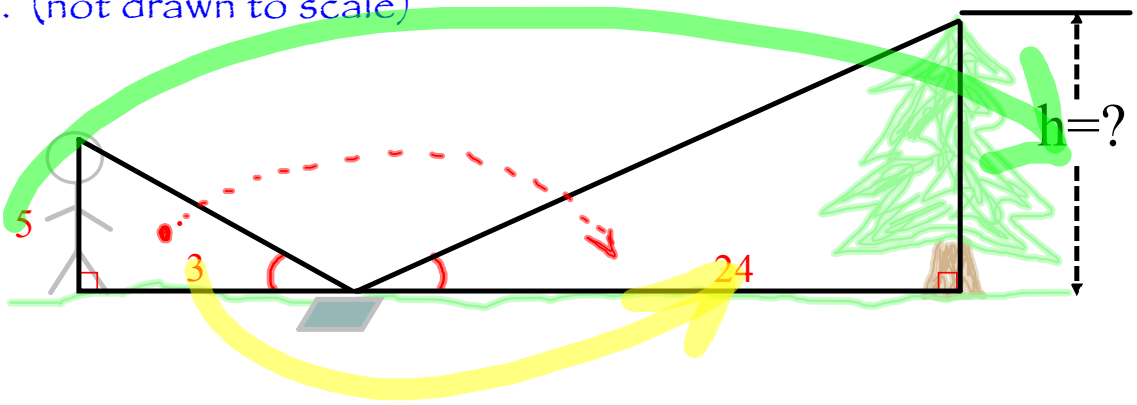
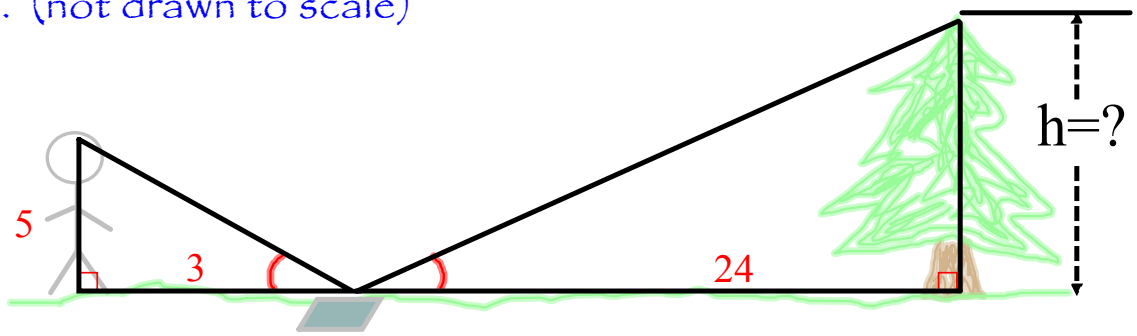


AA~ so $\frac{3}{24} = \frac{5}{h}$

Triangle Similarity Examples - Indirect Measurement

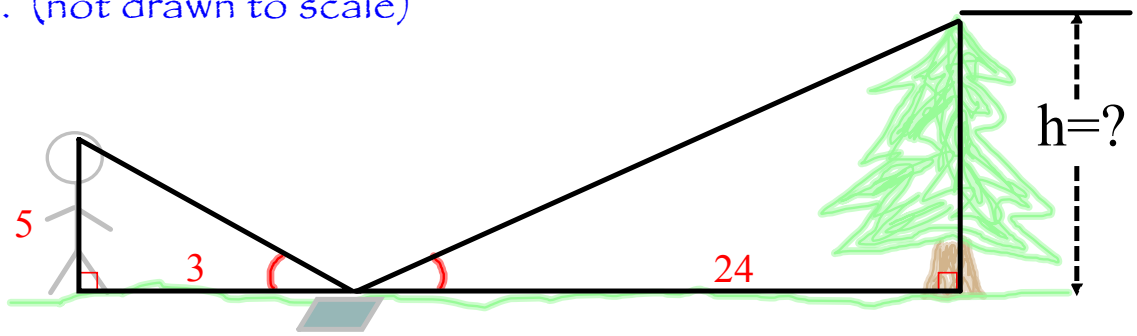
Find h. (not drawn to scale)



AA~ so $\frac{3}{24} = \frac{5}{h}$ → $3h = 120$

Triangle Similarity Examples - Indirect Measurement

Find h. (not drawn to scale)



AA~ so $\frac{3}{24} = \frac{5}{h} \rightarrow 3h = 120 \rightarrow h = 40ft$

L8-3 Homework Problems

Pg 435 #1-19, 22-28, 30-39, 53-57

Checkpoint Quiz 1, Pg 429 #1-10