Name Key Date _____ Pd ___

8.2 – 8.3 DAY TWO CYU

☑ *Use when you get it right all by yourself*

S *Use when you did it all by yourself, but made a silly mistake*

H *Use when you could do it alone with a little help from teacher or peer*

G *Use when you completed the problem in a group*

X *Use when a question was attempted but wrong (get help)*

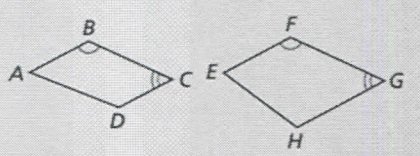
N *Use when a question was not even attempted*

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Error Analysis	1	3	2
Modeling with Mathematics		4	5, 10
Sketch and label triangles	6		9, 10
Determining if triangles are similar	6	8	7
Using similarity to solve for x/n		6	9
Writing similarity statements		8	7, 10
Determining scale factors			10

1. **ERROR ANALYSIS** Describe & correct the error in using the AA~ Theorem.

AA ~ Thm does not apply.
Not enough info.

X



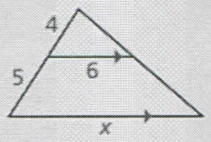
Quadrilateral $ABCD \sim$ quadrilateral $EFGH$ by the AA Similarity Theorem.

2. **ERROR ANALYSIS** Describe & correct the error in finding the value of x.

9 not 5

$\frac{4}{6} = \frac{9}{x}$ $x = 13.5$

X



$\frac{4}{6} = \frac{5}{x}$

$4x = 30$

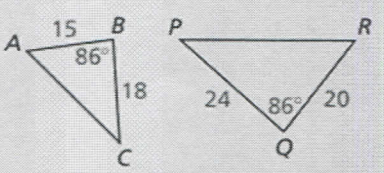
$x = 7.5$

3. **ERROR ANALYSIS** Describe & correct the error in writing a similarity statement.

$\overline{AB} \to \overline{RQ}$ & $\overline{BC} \to \overline{QP}$

$\Rightarrow \triangle ABC \sim \triangle RQP$

X

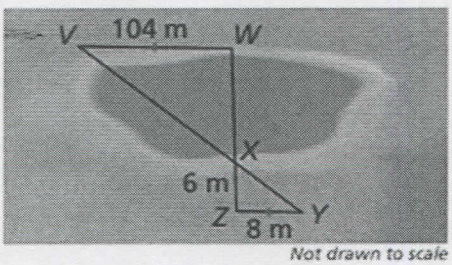


$\triangle ABC \sim \triangle PQR$ by the SAS Similarity Theorem (Theorem 8.5).

4. **MODELING WITH MATHEMATICS** You can measure the width of the lake using a surveying technique, as shown in the diagram. Find the width of the lake, WX. Justify your answer with algebraic work.

78m

$\angle$'s R $\cong \to \triangle$'s R ~.



Not drawn to scale

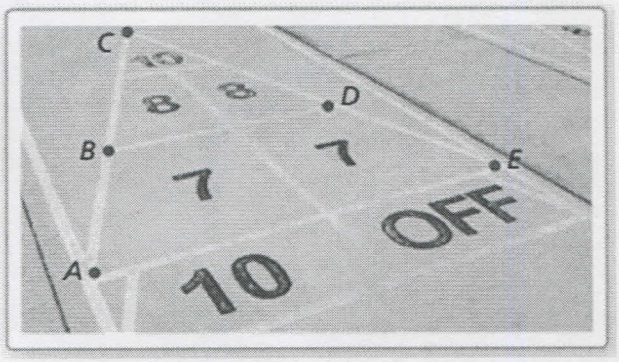
5. **MODELING WITH MATHEMATICS** In the portion of the shuffleboard court shown, $\frac{BC}{AC} = \frac{BD}{AE}$.

a) What additional information do you need to show that $\Delta BCD \sim \Delta ACE$ using the SSS~ Thm?

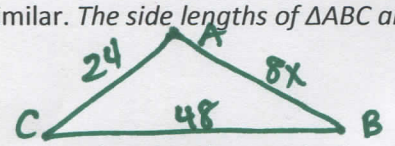
$\frac{CD}{CE} = \frac{BC}{AC}$ ←

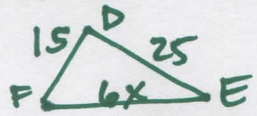
b) What additional information do you need to show that $\Delta BCD \sim \Delta ACE$ using the SAS~ Thm?

$\angle CBD \cong \angle CAE$



6. Sketch the triangles using the given description. Then determine whether the two triangles can be similar. *The side lengths of ΔABC are 24, 8x, & 48, and the side lengths of ΔDEF are 15, 25, & 6x.*

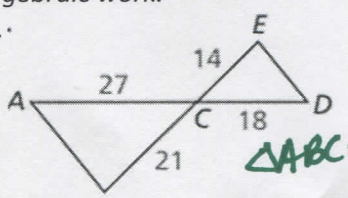




yes.

Show that the triangles are similar and write a similarity statement. Explain your reasoning with algebraic work.

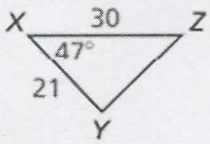
7.

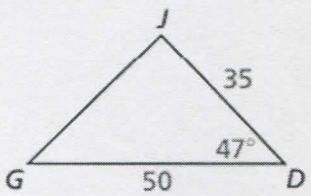


$\Delta ABC \sim \Delta DEC$

$\angle ACB \cong \angle DCE$ $\frac{CE}{CB} = \frac{DC}{AC}$

8.





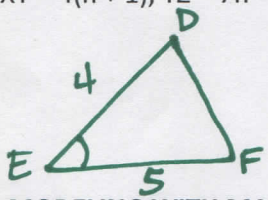
$\angle X \cong \angle D$

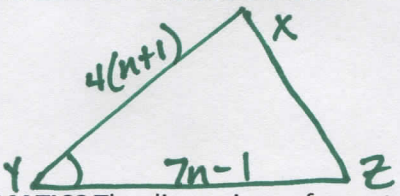
$\frac{XY}{DJ} = \frac{XZ}{DG}$

$\Delta XYZ \sim \Delta DJG$

9. **MATHEMATICAL CONNECTIONS** Find the value of n that makes ΔDEF ~ ΔXYZ when DE DE = 4, EF = 5, XY = 4(n + 1), YZ = 7n – 1, and ∠E ≅ ∠Y. Include a sketch.

$n = 3$

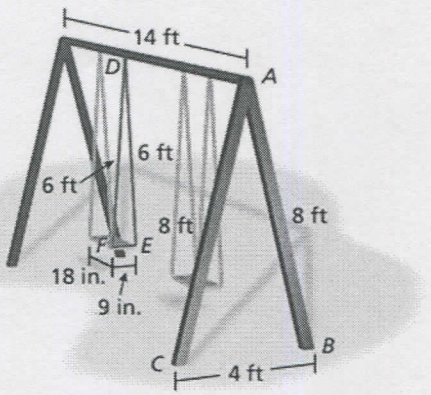




10. **MODELING WITH MATHEMATICS** The dimensions of an actual swing set are shown. You want to create a scale model of the swing set for a dollhouse using similar triangles. Sketch a drawing of your swing set and label each side length. Write a similarity statement for each pair of similar triangles. State the scale factor you used to create the scale model.

answers may vary

$k = \frac{1}{24}$



CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the

1 2	3 4 5	6 7	8
Basic	Intermediate	Advanced	Solved ALL!