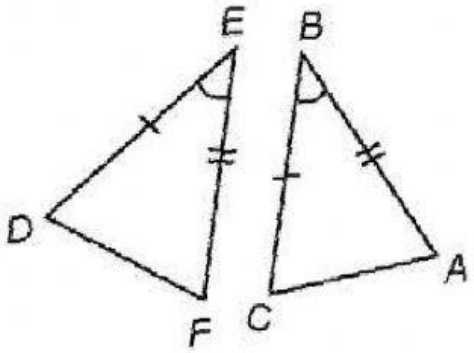
Unit 4 Test: Similarity Name: _____ No._____

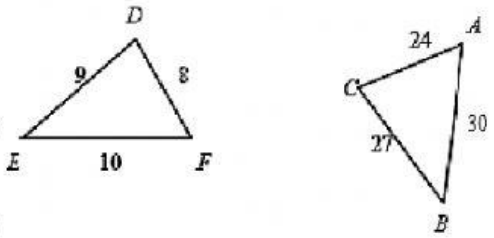
Instructions: Read the questions carefully and check the box of your answer.

1. Are the two triangles on the right similar? And why?



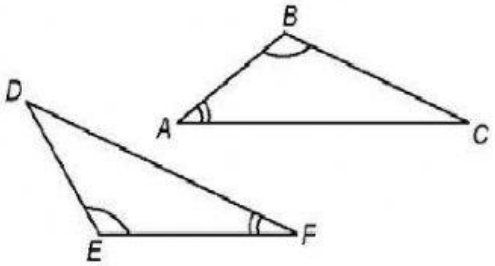
- ☐ No; the sides are not congruent.
- ☐ yes; $\Delta EDF \sim \Delta BCA$ by SSS Similarity
- ☐ yes; $\Delta EDF \sim \Delta BCA$ by ASA Similarity
- ☐ yes; $\Delta EDF \sim \Delta BCA$ by SAS Similarity

2. Are the two triangles on the right similar? And why?



- ☐ No; sides are not proportional.
- ☐ yes; $\Delta EDF \sim \Delta BAC$ by SSS Similarity
- ☐ yes; $\Delta EDF \sim \Delta BCA$ by SSS Similarity
- ☐ yes; $\Delta EDF \sim \Delta ABC$ by SSS Similarity

3. Are the two triangles on the right similar? And why?



- ☐ yes; $\Delta EDF \sim \Delta BCA$ by AA Similarity
- ☐ yes; $\Delta EDF \sim \Delta ABC$ by AA Similarity
- ☐ yes; $\Delta EDF \sim \Delta BCA$ by ASA Similarity
- ☐ No; there is not enough information to determine similarity.

LIVEWORKSHEETS

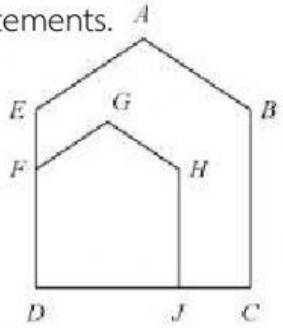
4. If $\frac{a}{b} = \frac{5}{3}$, then 3a =____

- 3b
- 10b
- 5b
- 6b

5. $Given: \frac{6}{a} = \frac{18}{27}$, what is a ?

- 54
- 81
- 9
- 18

6. *ABCDE* ☐ *GHJDF*. Complete the statements.

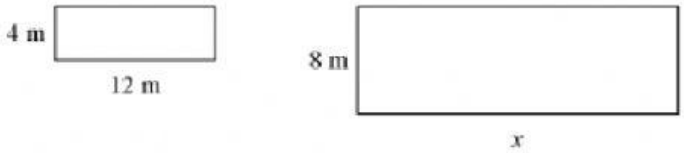


a. $\angle H \cong$ ■

b. $\frac{GH}{DJ} = \frac{AB}{■}$

- $\angle B$; DC
- E; AE
- E; DC
- $\angle B$; AE

7. The two rectangles are similar. Which is a correct proportion for corresponding sides?

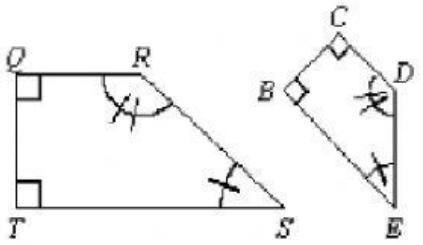


- $\frac{12}{8} = \frac{x}{4}$
- $\frac{12}{4} = \frac{x}{8}$
- $\frac{12}{4} = \frac{x}{20}$
- $\frac{4}{12} = \frac{x}{8}$

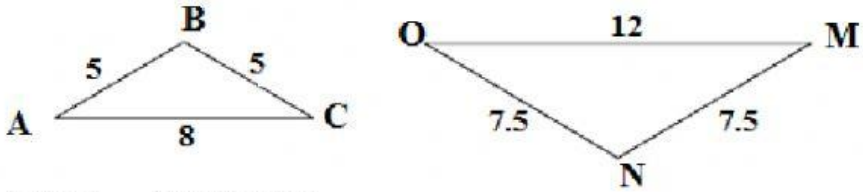
LIVEWORKSHEETS

8. Figure $TQRS \sim BCDE$. Name a pair of corresponding sides?

- $\overline{TQ}$ and $\overline{BE}$
- $\overline{TS}$ and $\overline{CD}$
- $\overline{RS}$ and $\overline{BC}$
- $\overline{QR}$ and $\overline{CD}$



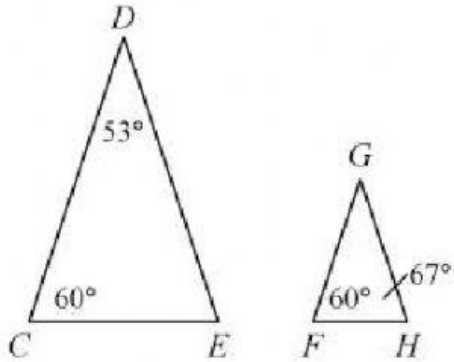
9. State if the two triangles below are similar or not.



- $\Delta ABC \sim \Delta MNO$; SSS
- $\Delta ABC \sim \Delta MNO$; AA
- $\Delta ABC \sim \Delta MNO$; SAS
- The triangles are not similar.

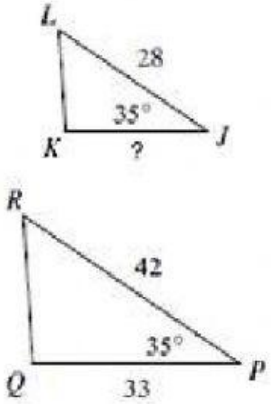
10. Write a similarity statement for the triangles.

- $\Delta CDE \sim \Delta FHG$
- $\Delta CDE \sim \Delta FGH$
- $\Delta CED \sim \Delta FGH$
- $\Delta EDC \sim \Delta FGH$



LIVEWORKSHEETS

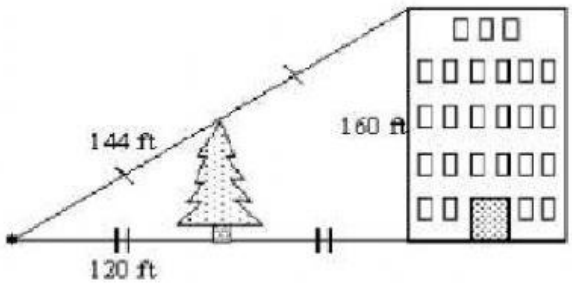
Items 11 – 15 . Show your solutions inside the box. (2 pts. each)

11. 

Given the figure on the left, how long is KJ ?

$KJ =$ _____

12. . Use the information in the diagram to determine the height of the tree to the nearest foot.



$\therefore$ *the height of the tree is* _____ $ft.$

13. A building 50 ft high casts a 75-ft shadow. Sarah casts a 6-ft shadow. The triangle formed by the building and its shadow is similar to the triangle formed by Sarah and her shadow. How tall is Sarah?

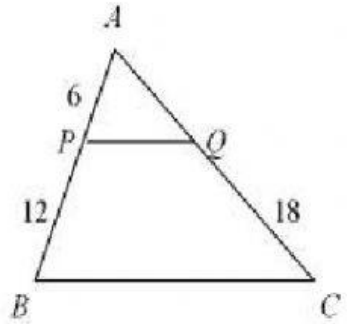
$\therefore$ *Sarah is* _____ ft tall.

LIVEWORKSHEETS

14. A tree is standing next to a 40-foot high building. The tree has an 18-foot shadow, while the building has a16-foot shadow. How tall is the tree, rounded to the nearest foot?

$\therefore$ *A tree is* _____ ft tall.

15. Given: *PQ* is parallel to *BC*. Find the length of *AQ*. The diagram is not drawn to scale.



$\therefore$ *AQ is* _____ *units.*

LIVEWORKSHEETS

LIVEWORKSHEETS