

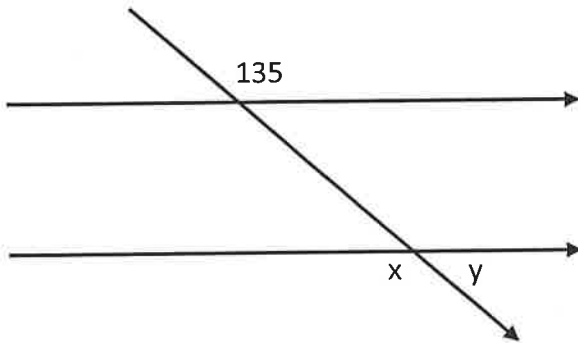
Name: _____

Topic 1 Test Review

Due Monday

1. Supplementary angles add to 180.

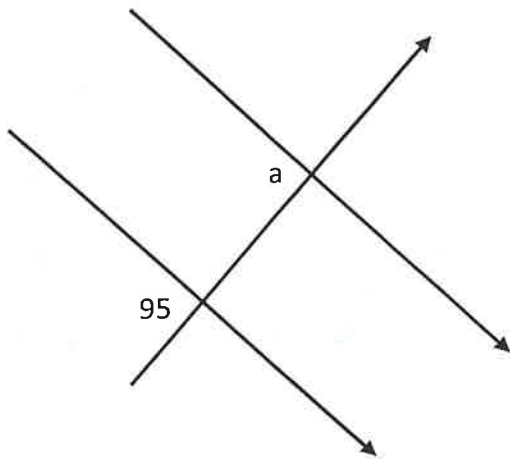
2. What are the measures of angles x and y? $x = \underline{135}$ $y = \underline{45}$



$$y = 180 - 135$$

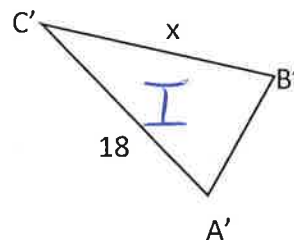
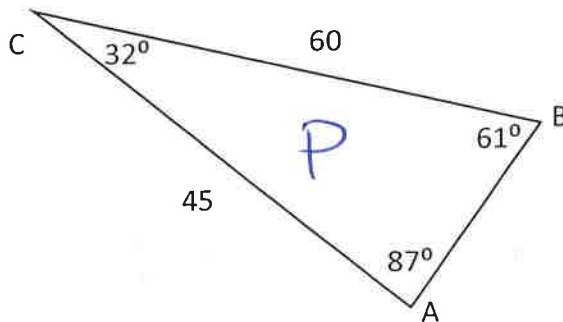
3. Find the measure of angle a.

$a = \underline{95}$



4. Triangle ABC has been dilated to create triangle A'B'C'.

- Label the image and preimage.
- What is the measure of angle B'? 61°
- What is the scale factor? .4
- Find x. $x = \underline{24}$



$$SF = \frac{I}{P}$$

$$SF = \frac{18}{45} = .4$$

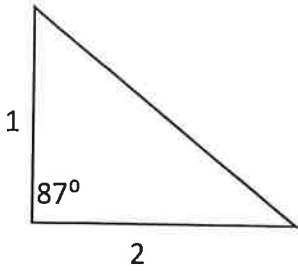
$$x = SF \times \text{corr. side}$$

$$x = .4 \times 60$$

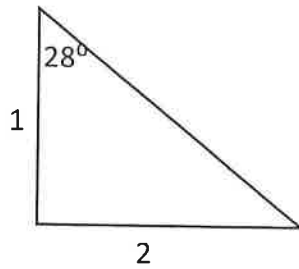
$$x = 24$$

5. Which example has an included angle?

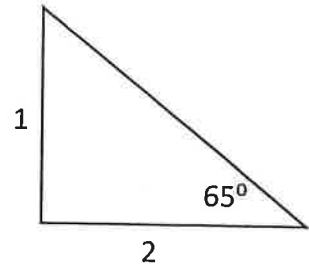
A.



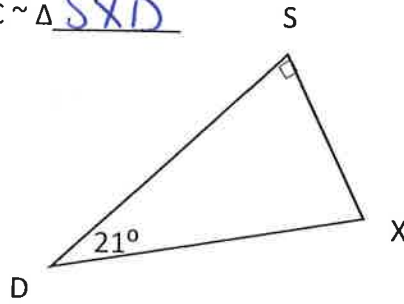
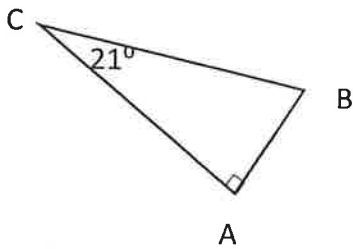
B.



C.



6. Complete the similarity statement. $\triangle ABC \sim \triangle$ SXD



A & S are both 90°
 B & X are both blank
 C & D are both 21°

7. What is the definition of:

Similar figures - same shape, same angles, proportional sides

Dilation - creates similar figures, shrinks or grows

Proportional - having a constant ratio, equivalent fractions

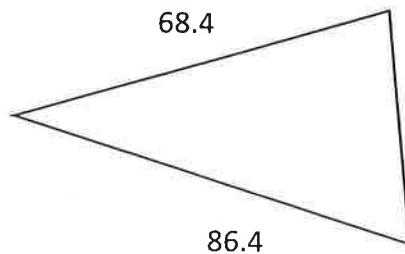
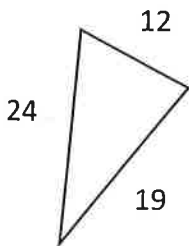
Congruent - same, equal

8. Are the triangles similar? Circle One.

If yes, by which property? Circle One.

Show your work.

Yes No
 SSS SAS AA

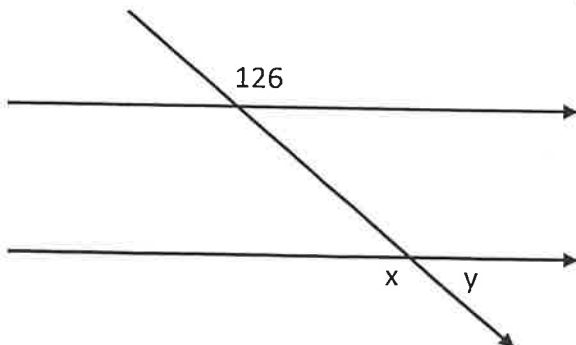


$$\frac{24}{68.4} = \frac{12}{43.2} = \frac{19}{86.4}$$

$$.27 = .27 = .27$$

9. Complementary angles add to 90.

10. What are the measures of angles x and y? $x =$ 126 $y =$ 54



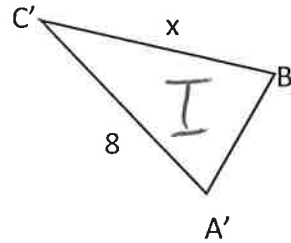
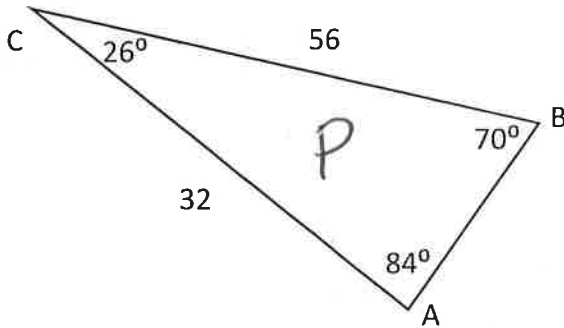
11. Triangle ABC has been dilated to create triangle A'B'C'.

a. Label the image and preimage.

b. What is the measure of angle B' ? 70°

c. What is the scale factor? Do not round. .25

d. Find x. x = _____



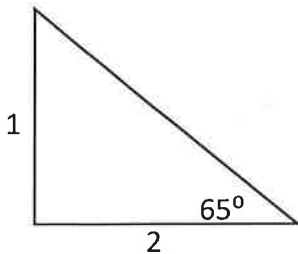
$$SF = \frac{8}{32} = .25$$

$$x = .25 \times 56$$

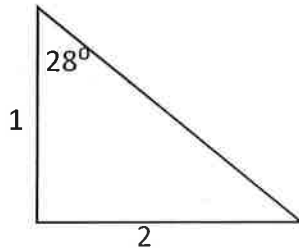
$$x = 14$$

12. Which example has an included angle?

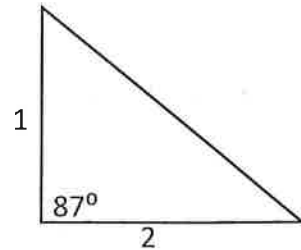
B.



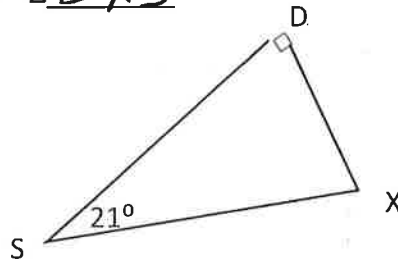
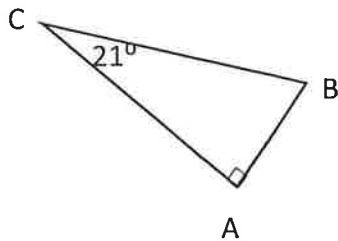
B.



C.



13. Complete the similarity statement. $\triangle ABC \sim \triangle$ DXS

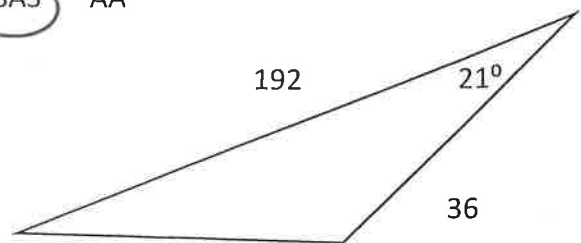
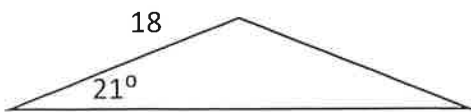


14. Are the triangles similar? Circle One.

If yes, by which property? Circle One.

Show your work.

Yes No
SSS SAS AA



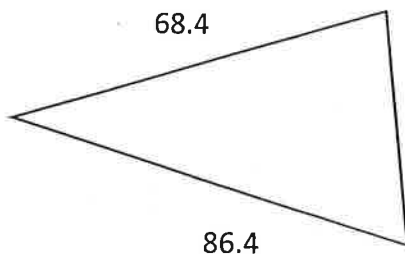
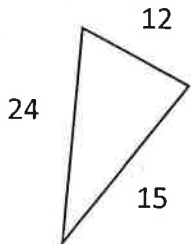
96

$$\frac{18}{36} = \frac{96}{192}$$

$$.5 = .5$$

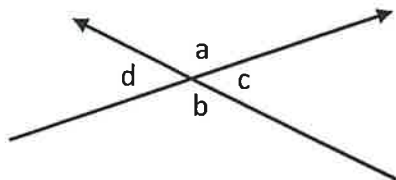
15. Are the triangles similar? Circle One.
 If yes, by which property? Circle One.
 Show your work.

Yes No
 SSS SAS AA

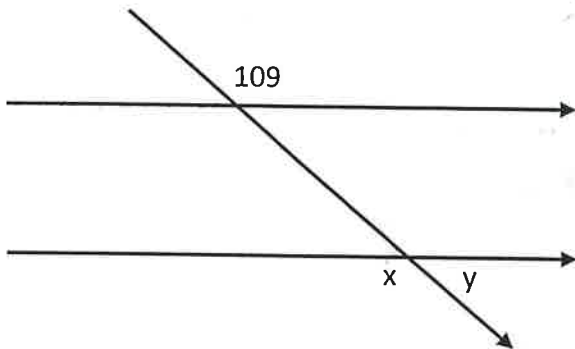


Handwritten calculations:
 $\frac{12}{43.2} \neq \frac{15}{86.4} = \frac{24}{86.4}$
 $.27 \neq .22 \neq .27$

16. Name a pair of adjacent angles on the sketch. Angles a and c
 17. Name a pair of vertical angles on the sketch. Angles a and b

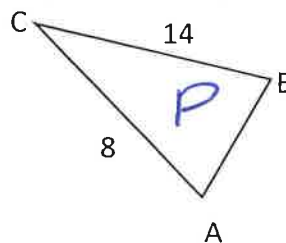
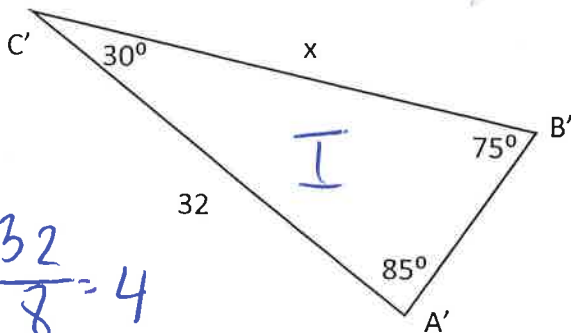


18. What are the measures of angles x and y? x = 109 y = 71



19. Triangle ABC has been dilated to create triangle A'B'C'.

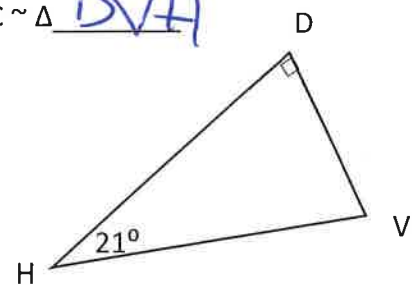
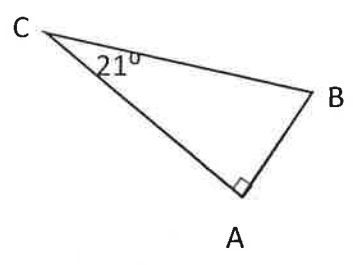
- a. Label the image and preimage.
- b. What is the measure of angle B? 75°
- c. What is the scale factor? 4
- d. Find x. x = 56



Handwritten calculation:
 $SF = \frac{32}{8} = 4$

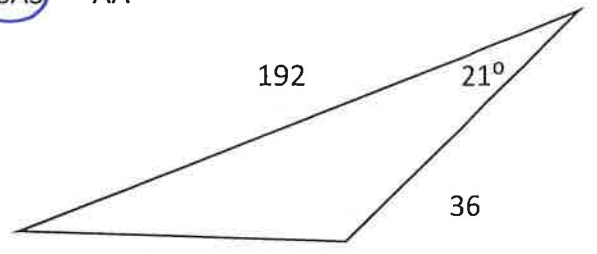
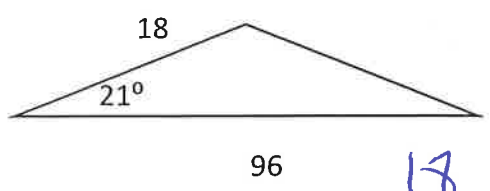
Handwritten calculation:
 $x = 4 \times 14 = 56$

20. Complete the similarity statement. $\triangle ABC \sim \triangle$ DVH



21. Are the triangles similar? Circle One.
If yes, by which property? Circle One.
Show your work.

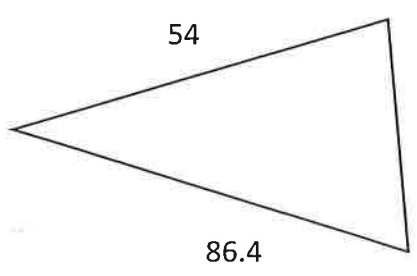
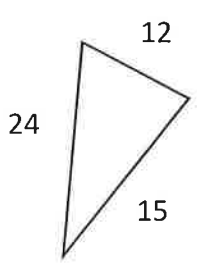
Yes No
SSS SAS AA



$$\frac{18}{36} = \frac{96}{192}$$

22. Are the triangles similar? Circle One.
If yes, by which property? Circle One.
Show your work.

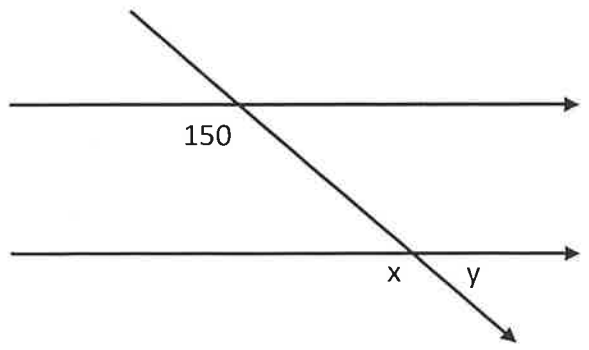
Yes No
SSS SAS AA



$$\frac{12}{43.2} = \frac{15}{54} = \frac{24}{86.4}$$

$$.27 = .27 = .27$$

23. What are the measures of angles x and y? $x =$ 150° $y =$ 30°

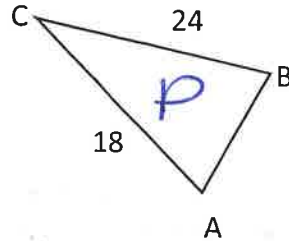
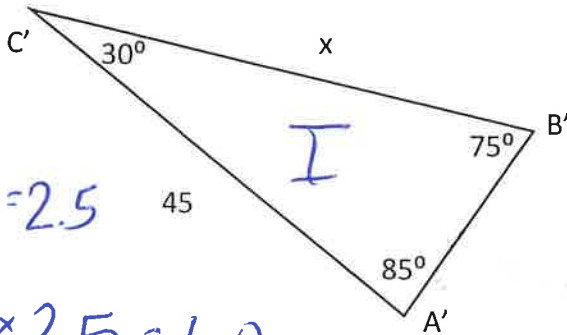


24. Triangle ABC has been dilated to create triangle A'B'C'.

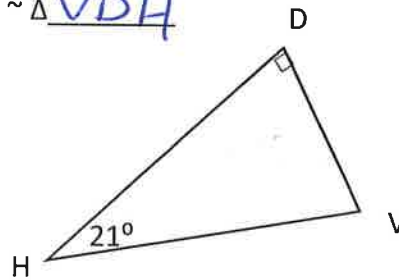
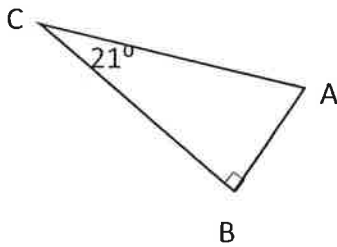
- e. Label the image and preimage.
- f. What is the measure of angle C? 30°
- g. What is the scale factor? 2.5
- h. Find x. x = 60

$$SF = \frac{45}{18} = 2.5$$

$$x = 24 \times 2.5 = 60$$



25. Complete the similarity statement. $\triangle ABC \sim \triangle$ VDH

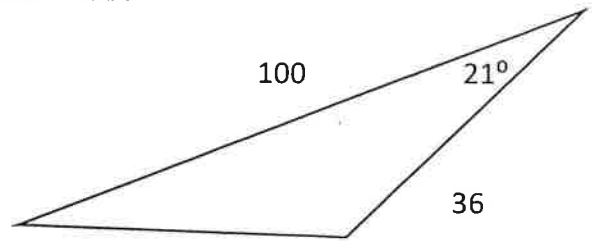
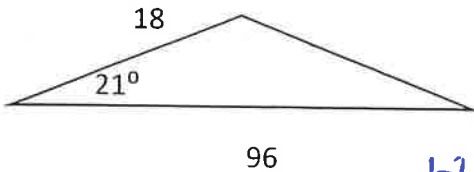


26. Are the triangles similar? Circle One.

If yes, by which property? Circle One.

Show your work.

- Yes No
 SSS SAS AA



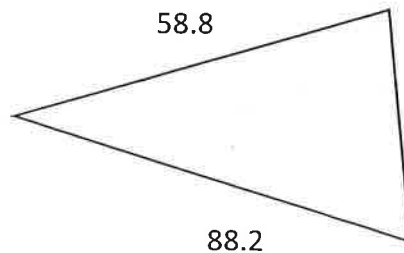
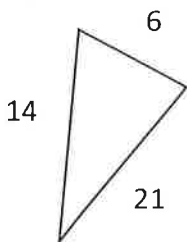
$$\frac{18}{36} \neq \frac{96}{100} \quad .5 \neq .96$$

27. Are the triangles similar? Circle One.

If yes, by which property? Circle One.

Show your work.

- Yes No
 SSS SAS AA

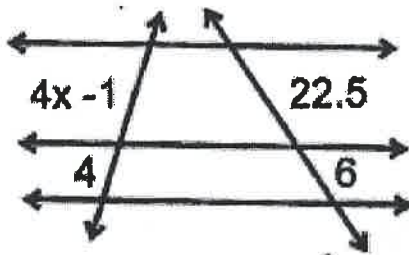


$$\frac{6}{25.2} = \frac{14}{58.8} = \frac{21}{88.2}$$

$$.24 = .24 = .24$$

28. Find x.

(4)



$$\frac{4x-1}{4} = \frac{22.5}{6}$$

$$6(4x-1) = 22.5 \cdot 4$$

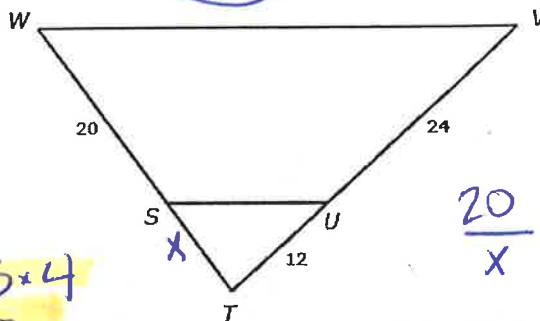
$$24x - 6 = 90$$

$$+6 \quad +6$$

38.

$\overline{VW} \parallel \overline{SU}$. Find ST.

(10)

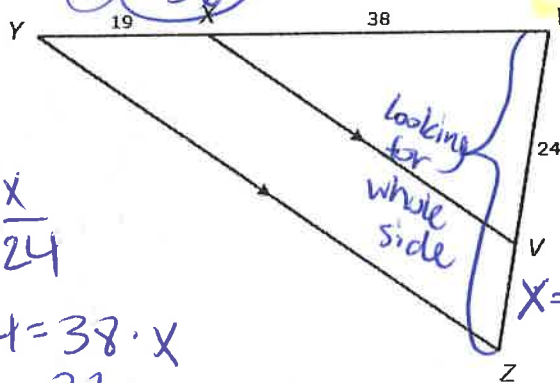


$$\frac{20}{x} = \frac{24}{12}$$

$$20 \cdot 12 = 24 \cdot x$$

39. Find WZ.

(36)



$$\frac{19}{38} = \frac{x}{24}$$

$$19 \cdot 24 = 38 \cdot x$$

$$\frac{456}{38} = \frac{38x}{38}$$

$$x = 12$$

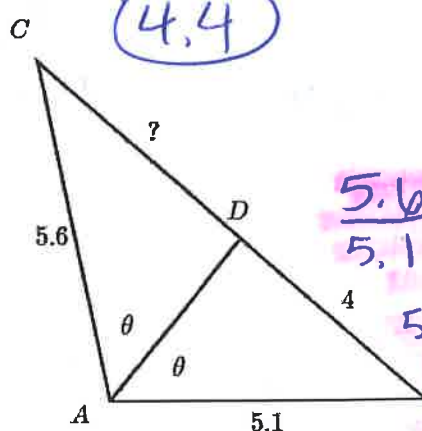
$$12 + 24 = 36$$

40. Find DC. Round to the nearest tenth.

$$\frac{240}{24} = \frac{24x}{24}$$

$$10 = x$$

(4.4)



$$\frac{5.6}{5.1} = \frac{x}{4}$$

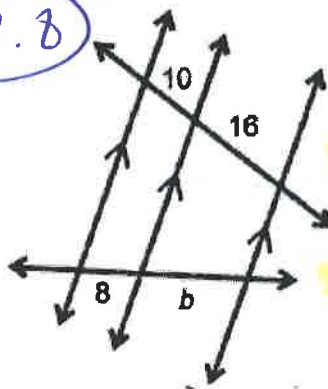
$$5.6 \times 4 = 5.1 \times x$$

$$\frac{22.4}{5.1} = \frac{5.1x}{5.1}$$

$$4.4 = x$$

41. Find b.

(12.8)



$$\frac{10}{8} = \frac{16}{b}$$

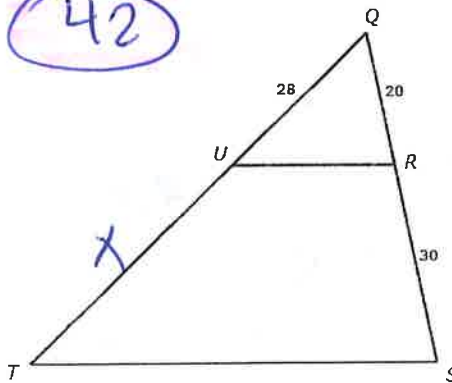
$$10 \cdot b = 16 \cdot 8$$

$$\frac{10b}{10} = \frac{128}{10}$$

$$b = 12.8$$

42. $\overline{ST} \parallel \overline{RU}$. Find TU.

(42)



$$\frac{28}{x} = \frac{20}{30}$$

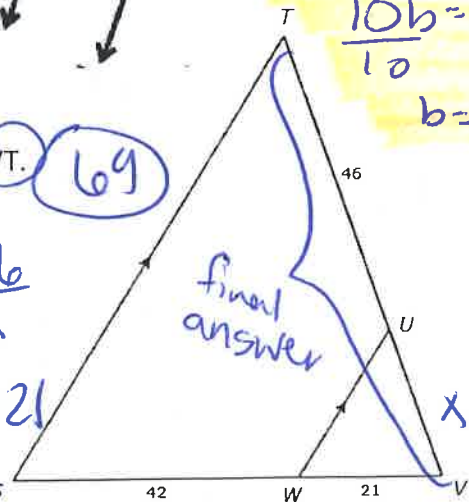
$$28 \cdot 30 = 20 \cdot x$$

$$840 = 20x$$

$$42 = x$$

43. Find VT.

(69)



$$\frac{42}{21} = \frac{46}{x}$$

$$42 \cdot x = 46 \cdot 21$$

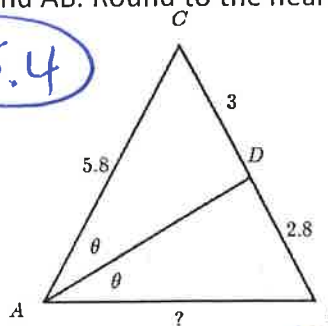
$$\frac{42x}{42} = \frac{966}{42}$$

$$x = 23$$

$$46 + 23 = 69$$

44. Find AB. Round to the nearest tenth.

(5.4)



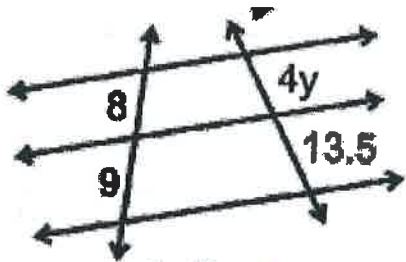
$$\frac{5.8}{x} = \frac{3}{2.8}$$

$$5.8 \times 2.8 = 3 \cdot x$$

$$\frac{16.24}{3} = \frac{3x}{3}$$

$$5.4 = x$$

45. Find y **(3)**



$$\frac{8}{9} = \frac{4y}{13.5}$$

$$8 \cdot 13.5 = 9 \cdot 4y$$

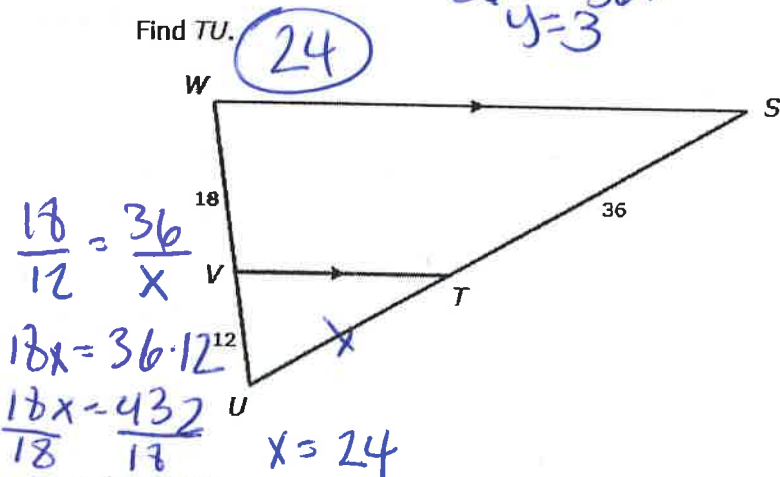
$$108 = 36y$$

$$\frac{108}{36} = \frac{36y}{36}$$

$$y = 3$$

47.

Find TU.



$$\frac{18}{12} = \frac{36}{x}$$

$$18x = 36 \cdot 12$$

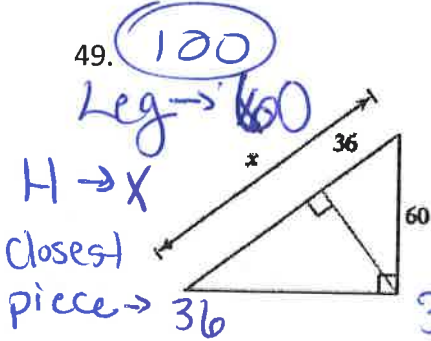
$$18x = 432$$

$$\frac{18x}{18} = \frac{432}{18}$$

$$x = 24$$

Solve for the missing sides.

49.



H \rightarrow x
Closest piece \rightarrow 36

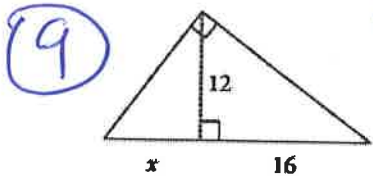
$$\frac{x}{36} = \frac{60}{36}$$

$$36 \cdot x = 60 \cdot 60$$

$$\frac{36x}{36} = \frac{3600}{36}$$

$$x = 100$$

51.



AH \rightarrow 12

$$\frac{x}{12} = \frac{12}{16}$$

$$16 \cdot x = 12 \cdot 12$$

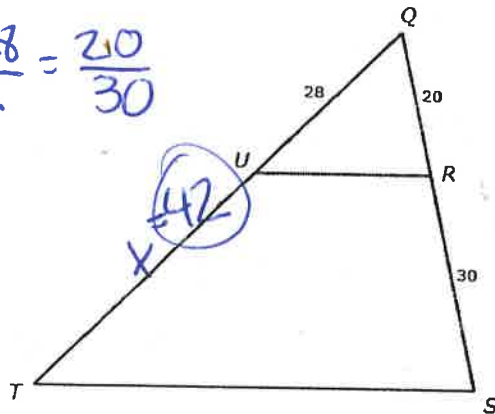
$$\frac{16x}{16} = \frac{144}{16}$$

$$x = 9$$

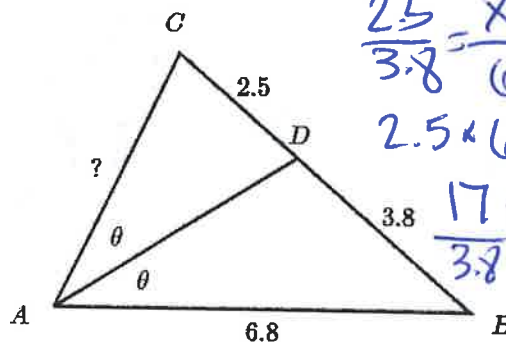
46. Same as #42

$\overline{ST} \parallel \overline{RU}$. Find TU.

$$\frac{28}{x} = \frac{20}{30}$$



48. Find AC. Round to the nearest tenth.



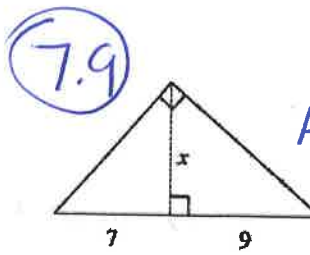
$$\frac{2.5}{3.8} = \frac{x}{6.8}$$

$$2.5 \cdot 6.8 = 3.8x$$

$$\frac{17}{3.8} = \frac{3.8x}{3.8}$$

$$4.5 = x$$

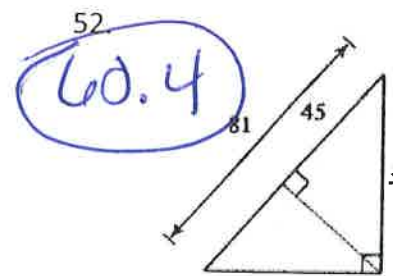
50.



Alt \rightarrow x

$$\frac{7}{x} = \frac{x}{9}$$

52.



Leg \rightarrow x

H \rightarrow 81

$$\frac{81}{x} = \frac{x}{45}$$

$$x^2 = 81 \cdot 45$$

$$x^2 = 3645$$

$$x = \sqrt{3645}$$