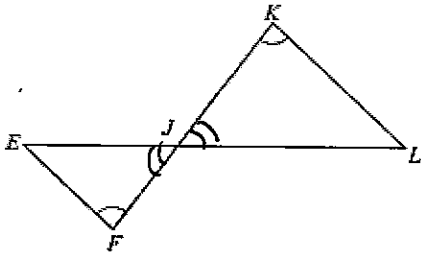


### 10.3 WS Similar Triangles

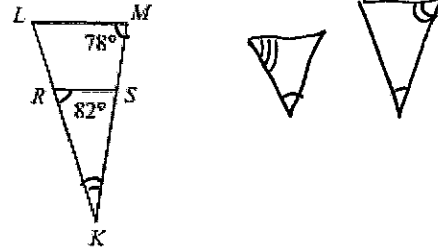
State if the triangles in each pair are similar. If so, state how you know they are similar.

1)



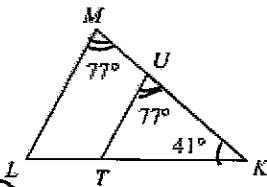
- A) similar; SSS similarity
- B) similar; SAS similarity
- C) similar; AA similarity
- D) not similar

2)



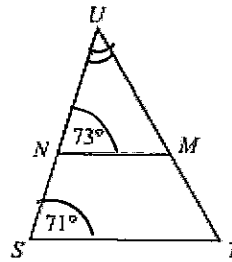
- A) similar; AA similarity
- B) similar; SAS similarity
- C) similar; SSS similarity
- D) not similar

3)



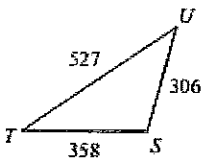
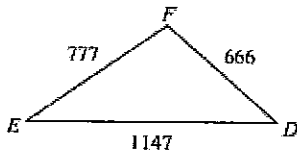
- A) similar; AA similarity
- B) not similar
- C) similar; SSS similarity
- D) similar; SAS similarity

4)



- A) not similar
- B) similar; SSS similarity
- C) similar; AA similarity
- D) similar; SAS similarity

5)

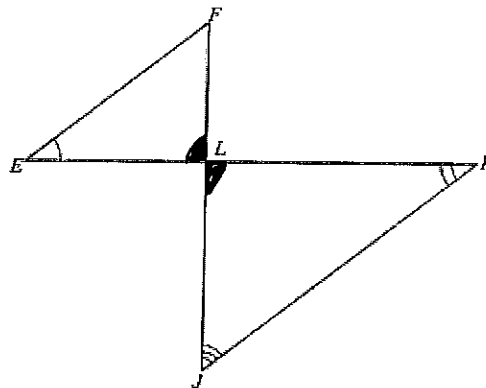


$$\frac{1147}{527} = \frac{777}{358} = \frac{666}{306}$$

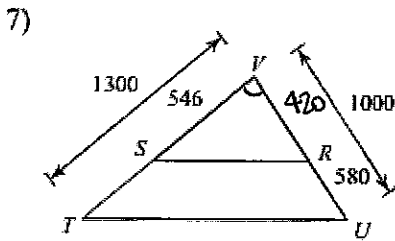
$$2.176 = 2.170 = 2.176$$

- A) similar; SAS similarity
- B) similar; AA similarity
- C) not similar
- D) similar; SSS similarity

6)



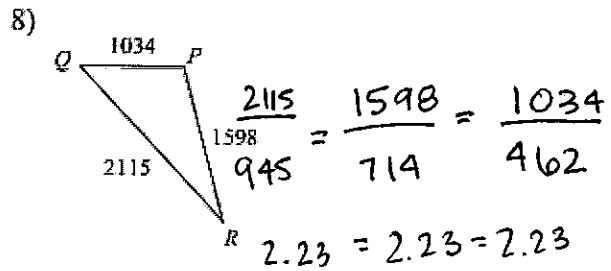
- A) similar; SAS similarity
- B) similar; SSS similarity
- C) not similar
- D) similar; AA similarity



$$\frac{1300}{546} = \frac{1000}{420}$$

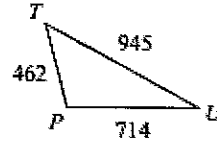
$$2.38 = 2.38$$

- A) similar; AA similarity
- B) similar; SSS similarity
- C) not similar
- D) similar; SAS similarity**



$$\frac{2115}{945} = \frac{1598}{714} = \frac{1034}{462}$$

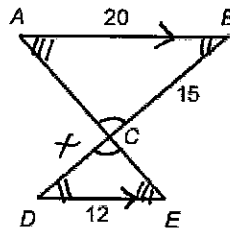
$$2.23 = 2.23 = 2.23$$



- A) similar; AA similarity
- B) not similar
- C) similar; SSS similarity**
- D) similar; SAS similarity

9) In the diagram below, AB is parallel to DE. AB=20 inches, DE=12 inches, and BC=15 inches. What is the length of DC?

- A. 25 in.
- B. 9 in.
- C. 7 in.
- D. 90 in.



$$\Delta CBA \sim \Delta CDE$$

$$\frac{DC}{BC} = \frac{AB}{ED}$$

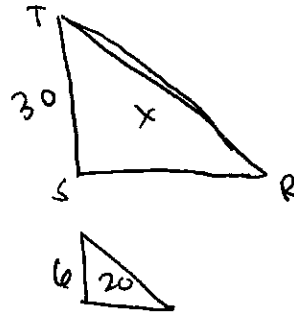
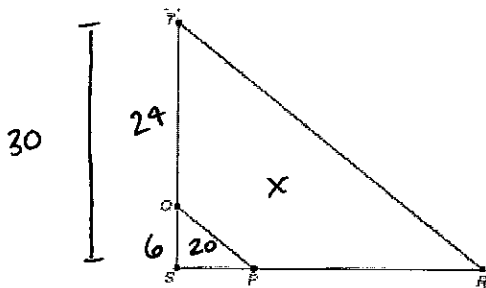
~~$$\frac{DC}{15} = \frac{20}{12}$$~~

$$DC \cdot 12 = 15 \cdot 20 \rightarrow DC = 25$$

10) In triangle STR, QP and TR are parallel.

If SQ = 6 units, QT = 24 units, and the perimeter of triangle SQP is 20 units, what is the perimeter of triangle STR?

- A. 80 units
- B) 100 units**
- C. 320 units
- D. 500 units

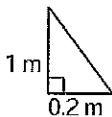
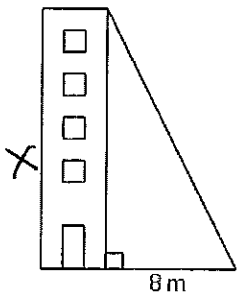


$$\frac{30}{X} = \frac{6}{20}$$

$$6X = 30 \cdot 20$$

$$X = 100$$

11) Assuming the two triangles are similar, find the tower's height from the given measurements below



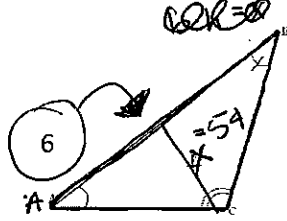
~~$$\frac{X}{8} = \frac{1}{0.2}$$~~

$$X(0.2) = 8 \cdot 1$$

$$.2X = 8$$

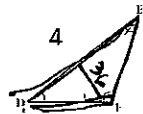
$$X = 40 \text{ m}$$

12) Find the missing values for the pair of figures.



P=12

A = ~~102~~  
112



P=8

A=72

$\frac{b \cdot h}{2} = \frac{144}{4}$   
 $\Delta ABC \sim \Delta DEF$   
 $AB \sim DE$

$\frac{x}{36} = \frac{6}{4}$

$\frac{6}{12} = \frac{4}{x}$

x=8

$\frac{bh}{2} = A$   
 $\frac{bh}{2} = 72$   
 by AAA

b · h = 144

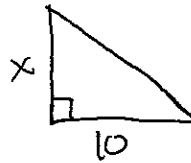
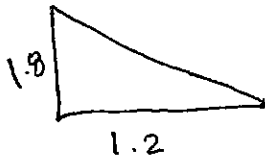
~~Ratio: 3:4~~

Ratio: 3:4  
 Area: 1232  
 (10)

6:4

? 108 : 72

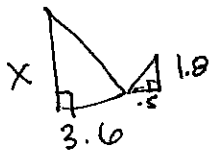
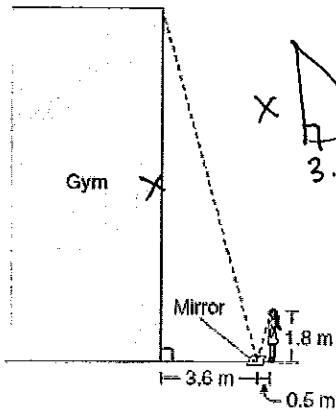
13) Stephanie casts a shadow of 1.2 m and she is 1.8 m tall. A wind turbine casts a shadow of 10 m at the same time that Stephanie measured her shadow. Draw a diagram of this situation and then calculate how tall the wind turbine is.



$\frac{1.8}{1.2} = \frac{x}{10}$

x = 15 m

14) To estimate the height of her school's gym, Nicole sights the top of the gym wall in a mirror that she has placed on the ground. The mirror is 3.6 meters from the base of the gym wall. Nicole is standing 0.5 meter from the mirror, and her height is about 1.8 meters. What is the height of the gym wall?



$\frac{1.8}{.5} = \frac{x}{3.6}$

x = 12.96

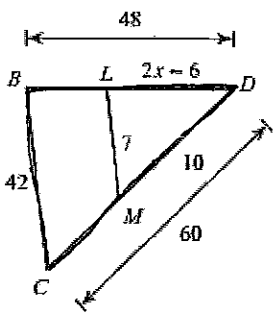
2,640 = 198x - 132

x = 14

$\frac{66}{55} = \frac{48}{3x-2}$

Solve for x. The triangles in each pair are similar.

15)



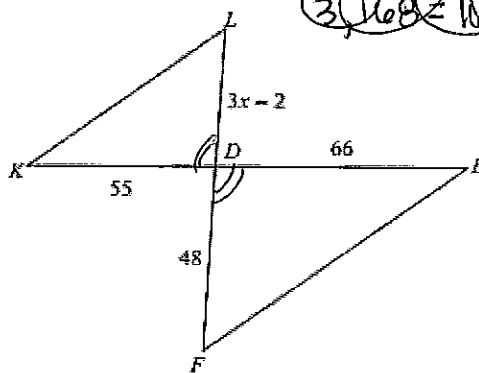
$\frac{2x-6}{48} = \frac{7}{60}$

- A) 13
- C) 4

- B) 14
- D) 7

$48 = 12x - 36$   
 $+36 \quad +36$   
 $84 = 12x$   
 $\frac{84}{12} = \frac{12x}{12}$   
 $x = 7$

16)



- A) 8
- C) 11

- B) 4
- D) 14

$\frac{66}{55} = \frac{3x-2}{48}$

3,168 = 165x - 99