Geometry Similarity Review   Name: _____ Block: ____

| 1. Apply the dilatation to triangle GHJ. Name the new points and state the scale factor. $$D(x, y) \rightarrow (1.5x, 1.5y)$$ $G(1, -2) \rightarrow G'(\_\_\_, \_\_\_)$ $H(1, -4) \rightarrow H'(\_\_\_, \_\_\_)$ $J(4, -2) \rightarrow J'(\_\_\_, \_\_\_)$ Scale factor: _____	2. Apply the dilatation to triangle LMN. Name the new points and state the scale factor. $$D(x, y) \rightarrow \left(\frac{1}{3}x, \frac{1}{3}y\right)$$ $L(-3, 3) \rightarrow L'(\_\_\_, \_\_\_)$ $M(3, 6) \rightarrow M'(\_\_\_, \_\_\_)$ $N(3, -3) \rightarrow N'(\_\_\_, \_\_\_)$ Scale factor: _____
3. If a dilation with a scale factor of $\frac{5}{4}$ takes place, what type of dilation is this?	4. If $\overline{AB}$ has a length of 16 units, what is the length of $\overline{A'B'}$ under a dilation with a scale factor of k=2?
5. If $\overline{CD}$ has a length of 23.2 units, what is the length of $\overline{C'D'}$ under a dilation with a scale factor of 75%?	6. If $\triangle DEF$ has vertices with the coordinates D(-2,4), E(8,-10), and F(-6,-2), what are the vertices of $\triangle D'E'F'$ under a dilation with a scale factor of 120% and the center at the origin,(0,0)?

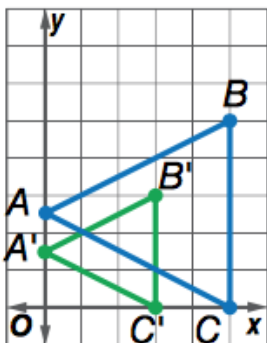Find the scale factors of the given dilations and determine if an enlargement or reduction occurred.
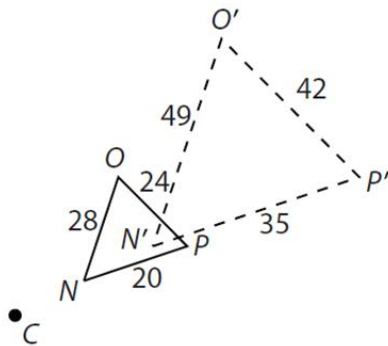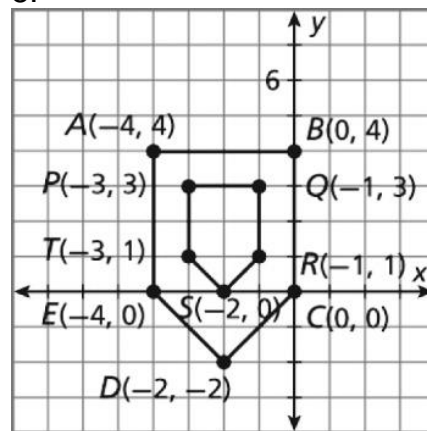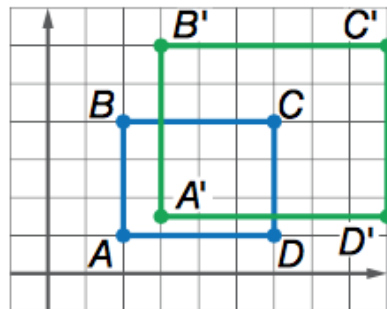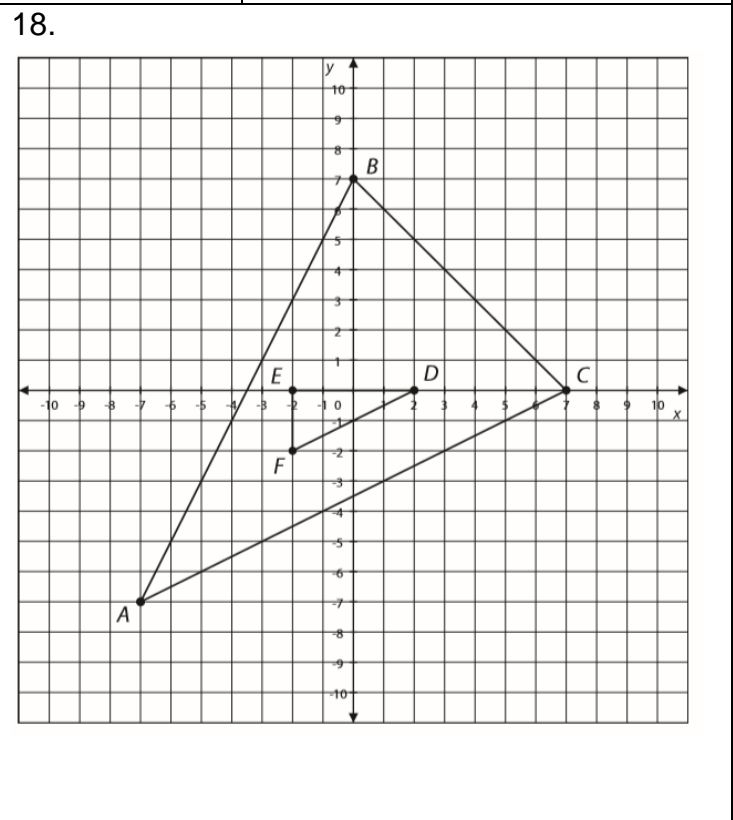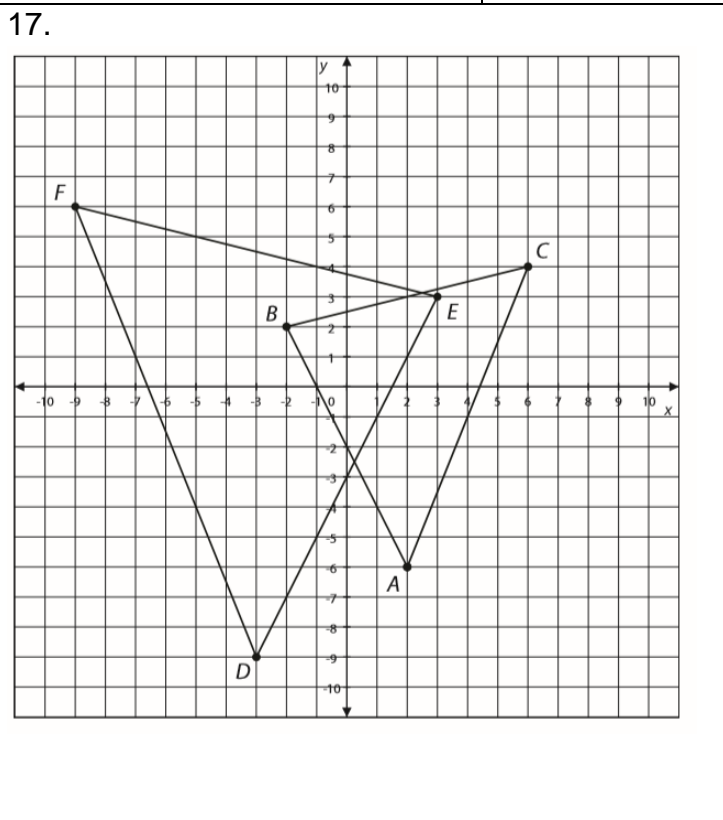
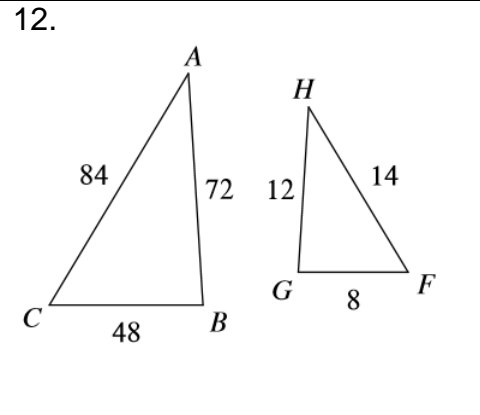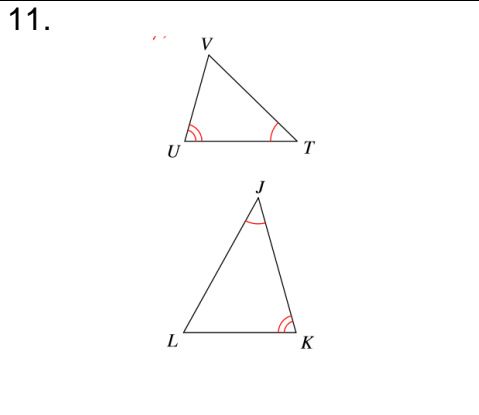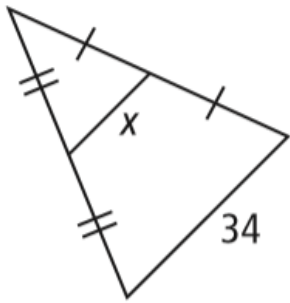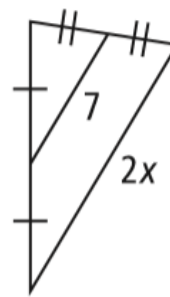| 7.	8.
8.	9.

Use the given information below to determine which similarity statement can be used to show that the triangles are similar. (AA, SAS, SSS)
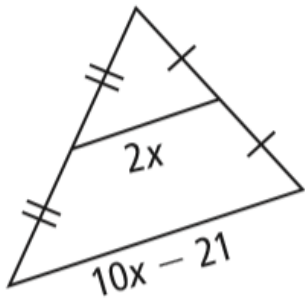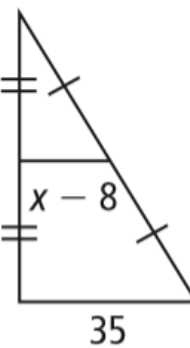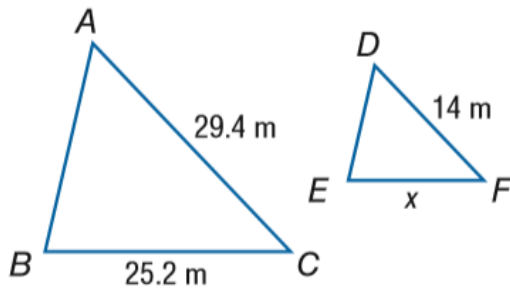
11.

12.

13.

14.

15.

16.

17.

18.

2

19. Find x.

34

20. Find x.

7

2x

21.

2x

10x − 21

22.

x − 8

35
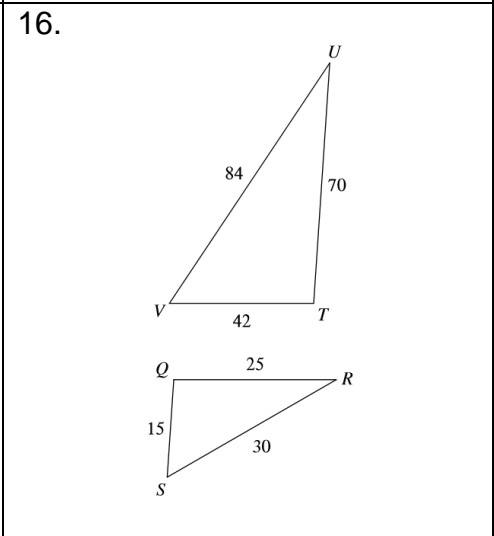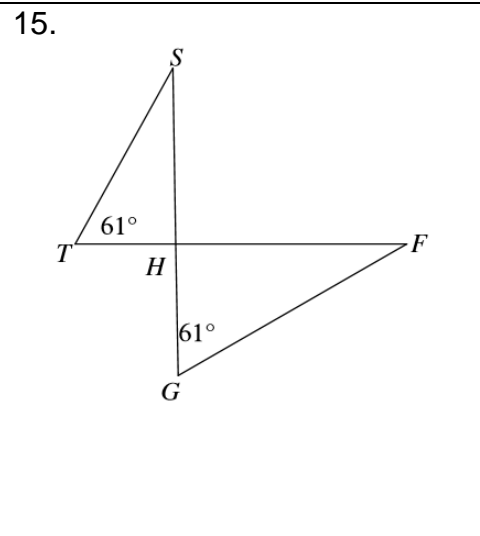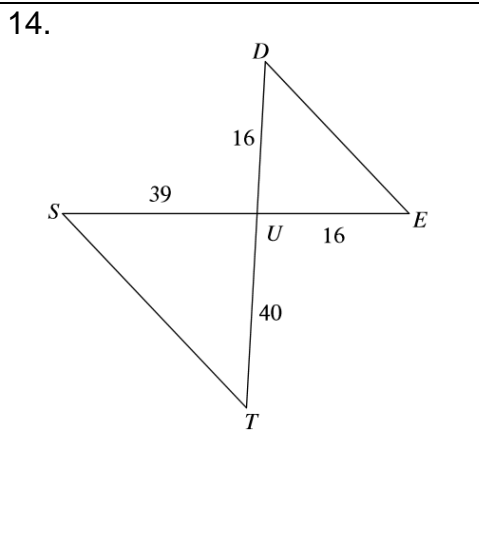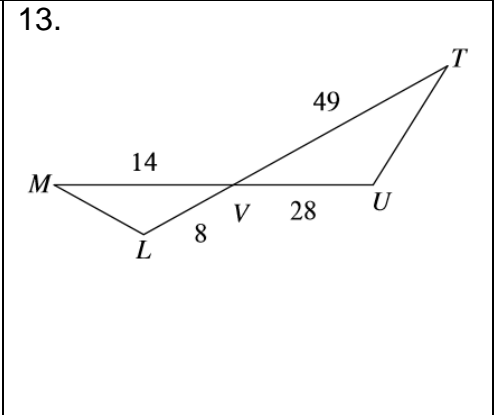
Find the value of x in each pair of similar figures.

23.

A

B   25.2 m   C

29.4 m

D

14 m

E   x   F

24.

T   U
x
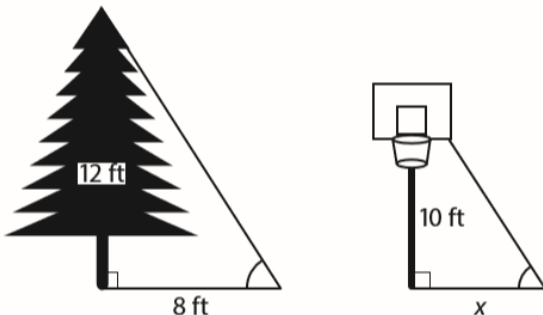S   14 cm   V
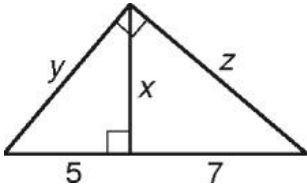
X   Y

14 cm

W   28 cm   Z
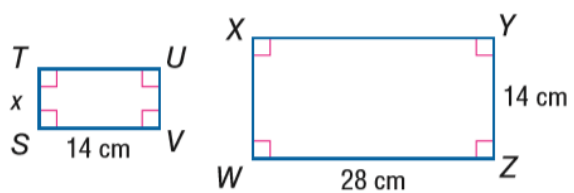
25. At a certain time of day, a tree that is 12 feet tall casts a shadow that is 8 feet long. Find the length of the shadow that is created by a 10-foot-tall basketball hoop at the same time of day.
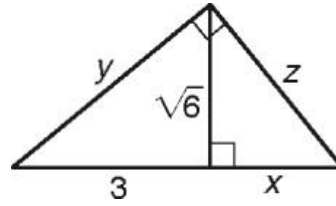

12 ft

8 ft

10 ft

x

26. Sheila is standing near the Eiffel Tower in Paris, France. The shadow of the monument is 580 feet long, and Sheila's shadow is 3 feet long. If Sheila is 5 feet 6 inches tall, how tall is the monument?
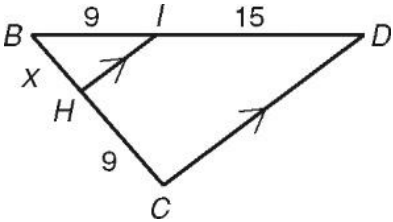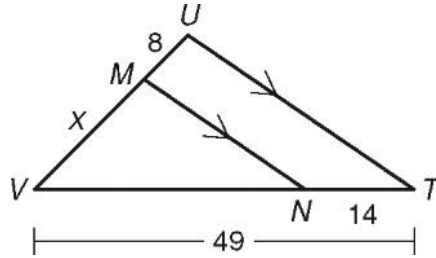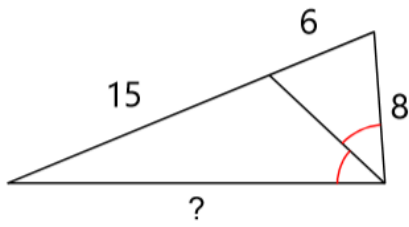

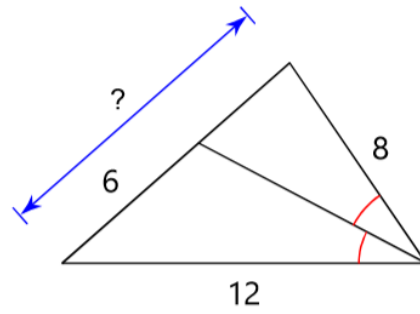580 ft

5 ft 6 in

3 ft
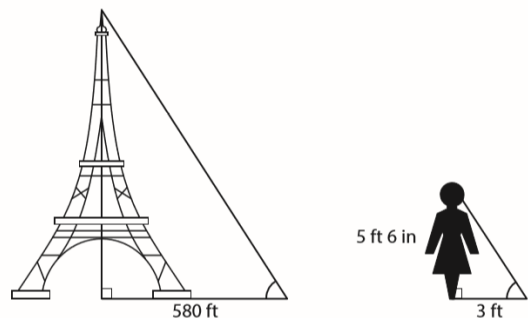
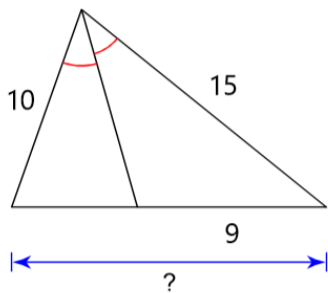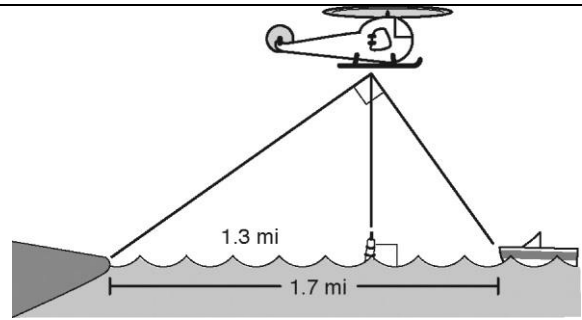| 27. Find the value of x.	28. Find the value of x.
29.	30.
31.	32.
33.	34. Find CB and DA.
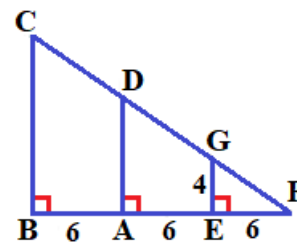
The Coast Guard has sent a rescue helicopter to retrieve passengers off a disabled ship. The ship has called in its position as 1.7 miles from shore. When the helicopter passes over a buoy that is known to be 1.3 miles from shore, the angle formed by the shore, the helicopter, and the disabled ship is 90▫. Determine what the altimeter would read to the nearest foot when the helicopter is directly above the buoy. Note that 1 mile is 5280 feet.
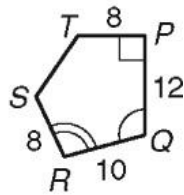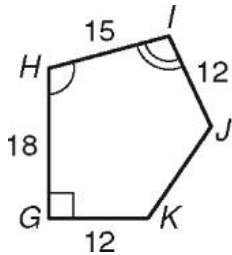

1.3 mi

1.7 mi

The Coast Guard has sent a rescue helicopter to retrieve passengers off a disabled ship. The ship has called in its position as 1.7 miles from shore. When the helicopter passes over a buoy that is known to be 1.3 miles from shore, the angle formed by the shore, the helicopter, and the disabled ship is 90▫. Determine what the altimeter would read to the nearest foot when the helicopter is directly above the buoy.

F

30 m

G

24 m

20 m

S

26 m

H

E   32.5 m
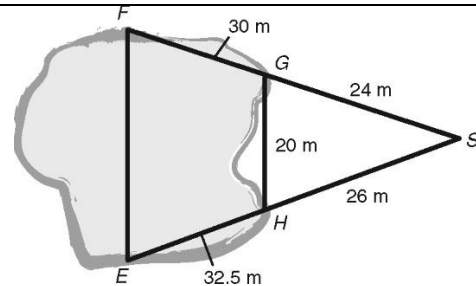
Use triangle similarity to prove that *GHIJK ~ PQRST*.

15

H   *I*   12

18   J

G   K

12

T   8   P

12

S

8   Q

R   10

d *ST*. Explain your reasoning.

P   4

S

7   U   3

2   Q

V

R   T