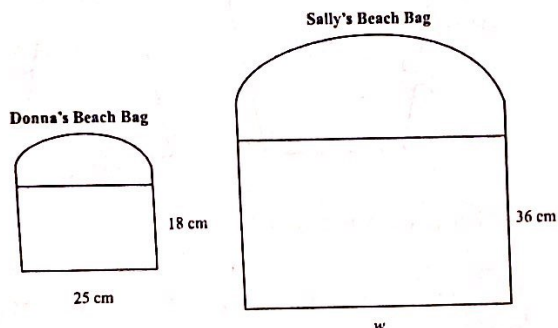


Unit 7 Practice Test - Similarity

Name: Key

Date: _____

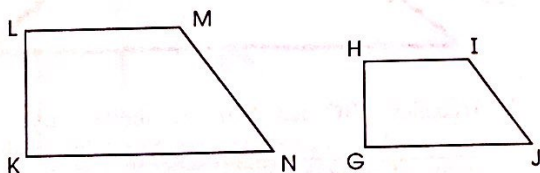
1. Donna's beach bag is similar to her sister Sally's. The figures below show some of the measurements.



Which proportion could be used to find the width of Sally's beach bag?

- A. $\frac{18}{36} = \frac{w}{25}$ B. $\frac{18}{25} = \frac{w}{36}$
 C. $\frac{25}{36} = \frac{18}{w}$ D. $\frac{36}{w} = \frac{18}{25}$

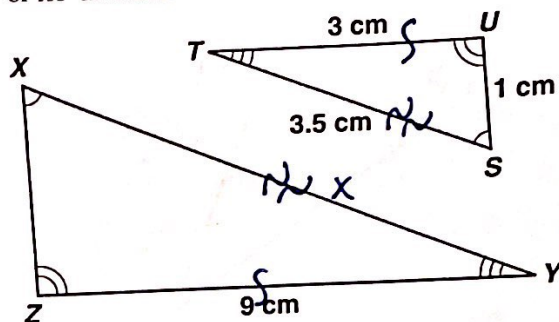
2. Two similar trapezoids are shown.



Which proportion must be true?

- A. $\frac{MN}{IJ} = \frac{NK}{JG}$ B. $\frac{MN}{IJ} = \frac{MN}{KL}$
 C. $\frac{MN}{NK} = \frac{JG}{IJ}$ D. $\frac{MN}{IJ} = \frac{IJ}{HI}$

3. If $\triangle XYZ$ is similar to $\triangle STU$, what is the length of \overline{XY} in centimeters?



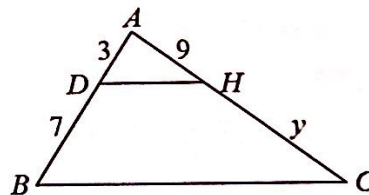
- A. 9 B. 10.5 C. 12 D. 12.5

$$\frac{9}{3} = \frac{x}{3.5}$$

$$3x = 31.5$$

$$x = 10.5$$

4. In the diagram below $\overline{BC} \parallel \overline{DH}$.



What is the value of y?

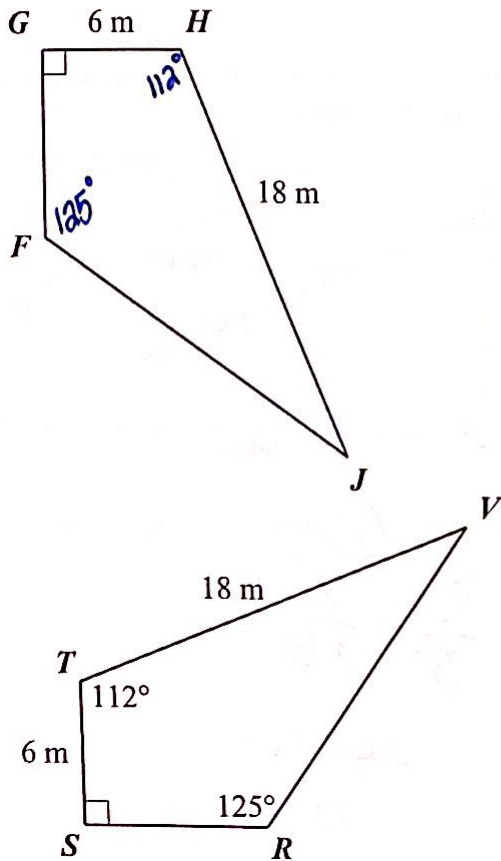
- A. 13 B. 19 C. 21 D. 30

$$\frac{3}{7} = \frac{9}{y}$$

$$3y = 63$$

$$y = 21$$

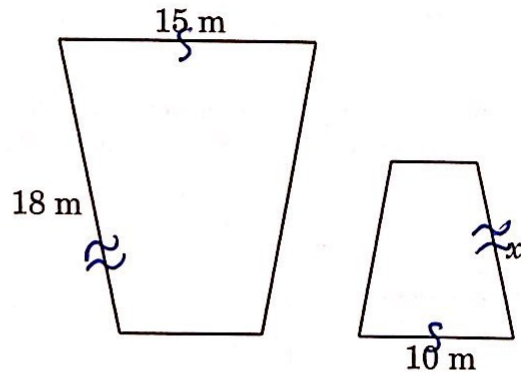
5. In the diagram below, quadrilateral $FGHJ \cong$ quadrilateral $RSTV$.



Based on the measurements in the diagram, what is $m\angle F$?

- A. 33° B. 90° C. 112° **D. 125°**

6. The two polygons below are similar.



What is the value of x ?

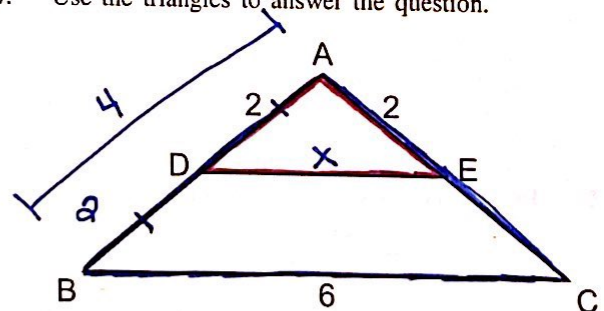
- A. 12 m** B. 13 m C. 18 m D. 27 m

$$\frac{15}{10} = \frac{18}{x}$$

$$15x = 180$$

$$x = 12$$

7. Use the triangles to answer the question.



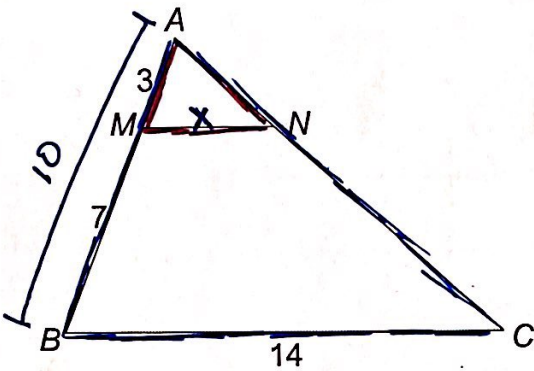
Triangles ABC and ADE are similar. Line segment DE bisects segment AB . What is the length of segment DE ?

- A. 2 units **B. 3 units**
C. 4 units D. 6 units

$$\frac{2}{x} = \frac{4}{6}$$

$$x = 3$$

8. Use the triangle below to answer the following question(s).



In $\triangle ABC$ above, \overline{MN} is parallel to \overline{BC} . What is the length of \overline{MN} ?

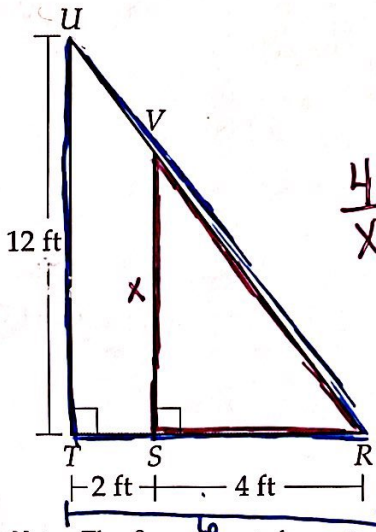
- A. 4.2 B. 6.0 C. 8.4 D. 7.0

$$\frac{3}{x} = \frac{10}{14}$$

$$10x = 42$$

$$x = 4.2$$

9. A sail is shown below as $\triangle RTU$. \overline{SV} is a stripe.



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

$$48 = 6x$$

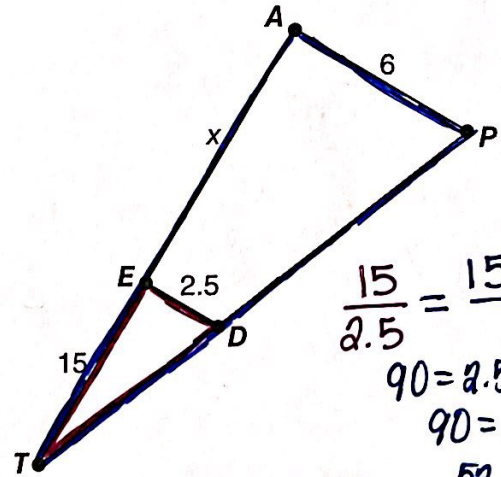
$$x = 8$$

Note: The figure is not drawn to scale.

What is the length of \overline{SV} ?

- A. 4 feet B. 6 feet
C. 8 feet D. 10 feet

10. Natalie drew this figure on a piece of paper.



$$\frac{15}{2.5} = \frac{15+x}{6}$$

$$90 = 2.5(15+x)$$

$$90 = 37.5 + 2.5x$$

$$52.5 = 2.5x$$

$$x = 21$$

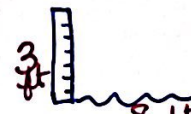
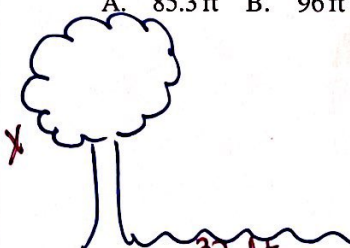
If $TAP \sim TED$, what is the value of x ?

(Note: This figure is not drawn to scale.)

- A. 36 B. 24 C. 21 D. 15

11. A tree casts a 32-foot shadow at the same time of the day when a 3-foot yardstick casts an 8-foot shadow. How tall is the tree?

- A. 85.3 ft B. 96 ft C. 256 ft D. 12 ft



$$\frac{x}{32} = \frac{3}{8}$$

$$8x = 96$$

$$x = 12$$

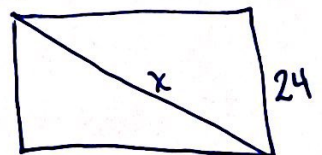
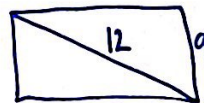
12. A television screen with a 12-inch diagonal has a height of 9 inches. What is the diagonal of a similar television screen with a height of 24 inches?

- A. 12 inches B. 18 inches
C. 24 inches D. 32 inches

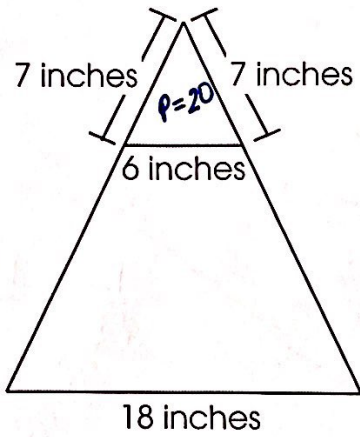
$$\frac{12}{x} = \frac{9}{24}$$

$$9x = 288$$

$$x = 32$$



13. A small triangle and a larger triangle are shown.



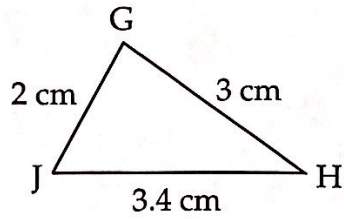
The two triangles are similar.

What is the perimeter of the larger triangle?

- A. 38 inches
 B. 46 inches
 C. 54 inches
 D. 60 inches

bottom $\frac{6}{x3} = \frac{18}{x}$
 perimeter $\frac{20}{x3} = \frac{x}{x}$
 $x = 60$

14. Use the triangle below to answer the following question.



Which triangle is similar to triangle GHJ?

- A. $\frac{2}{4} = \frac{3}{6} = \frac{3.4}{6.8}$ all $\frac{1}{2}$
- B. $\frac{2}{4} = \frac{3}{5} = \frac{3.4}{5.4}$
 $0.5 \neq 0.6 \neq 0.63$
- C. $\frac{2}{3} = \frac{3}{4} = \frac{3.4}{5}$
 $0.67 \neq 0.75 \neq 0.68$
- D. $\frac{2}{3} = \frac{3}{3} = \frac{3.4}{2.5}$
 $0.67 \neq 1 \neq 1.36$