

Name: _____

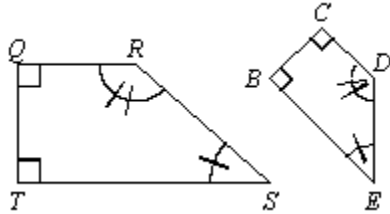
- _____ 1. A model is made of a car. The car is 10 feet long and the model is 7 inches long. What is the ratio of the length of the car to the length of the model?
A. 10 : 7 B. 7 : 120 C. 120 : 7 D. 7 : 10
- _____ 2. The length of a rectangle is $7\frac{1}{2}$ inches and the width is $4\frac{3}{4}$ inches. What is the ratio, using whole numbers, of the length to the width?
A. 30 : 38 B. 19 : 30 C. 15 : 19 D. 30 : 19
- _____ 3. Red and grey bricks were used to build a decorative wall. The $\frac{\text{number of red bricks}}{\text{number of grey bricks}}$ was $\frac{5}{2}$. There were 224 bricks used in all. How many red bricks were used?
A. 32 C. 44.8
B. 160 D. 64
- _____ 4. The measure of two complementary angles are in the ratio 1 : 5. What are the degree measures of the two angles?
A. 36° and 144° C. 30° and 150°
B. 15° and 75° D. 18° and 72°
- _____ 5. The ratio of length to width in a rectangle is 3 to 1. If the perimeter of the rectangle is 136 feet, what is the length of the rectangle?
A. 34 feet C. 51 feet
B. 102 feet D. 68 feet
- _____ 6. A salsa recipe uses green pepper, onion, and tomato in the extended ratio 1 : 3 : 8. How many cups of onion are needed to make 24 cups of salsa?
A. 16 C. 3
B. 6 D. 2
- _____ 7. The measures of the angles of a triangle are in the extended ratio 2 : 3 : 4. What is the measure of the smallest angle?
A. 40 C. 80
B. 60 D. 20

What is the solution of each proportion?

- _____ 8. $\frac{4}{a} = \frac{16}{32}$
A. 32 B. 128 C. 8 D. 16
- _____ 9. $\frac{p-6}{3p} = \frac{p-5}{3p+1}$
A. -3 B. $\frac{2}{5}$ C. $\frac{9}{17}$ D. 3

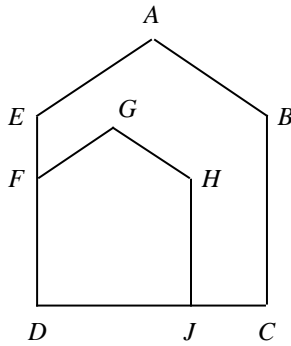
10. $\frac{3y - 8}{12} = \frac{y}{5}$
- A. -10 B. -7 C. $\frac{3}{40}$ D. $\frac{40}{3}$

11. Figure $TQRS \sim BCDE$. What are the pairs of congruent angles?



- A. $\angle R \cong \angle D$, $\angle Q \cong \angle E$, $\angle T \cong \angle B$, and $\angle S \cong \angle C$
- B. $\angle R \cong \angle D$, $\angle S \cong \angle B$, $\angle Q \cong \angle C$, and $\angle T \cong \angle E$
- C. $\angle S \cong \angle D$, $\angle R \cong \angle E$, $\angle T \cong \angle B$, and $\angle Q \cong \angle C$
- D. $\angle R \cong \angle D$, $\angle S \cong \angle E$, $\angle T \cong \angle B$, and $\angle Q \cong \angle C$

12. $ABCDE \sim GHJDF$. Complete the statements.

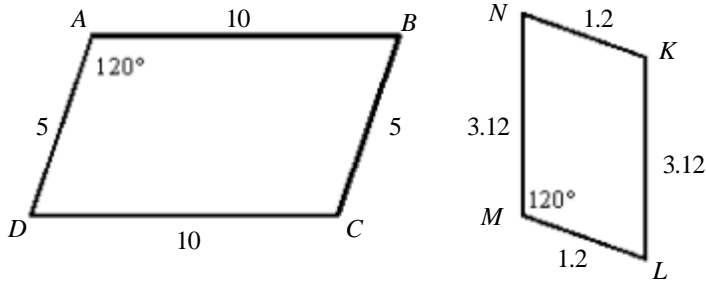


a. $\angle H \cong \blacksquare$

b. $\frac{GH}{DJ} = \frac{AB}{\blacksquare}$

- A. $\angle B$; DC B. E; AE C. E; DC D. $\angle B$; AE

Are the polygons similar? If they are, write a similarity statement and give the scale factor.



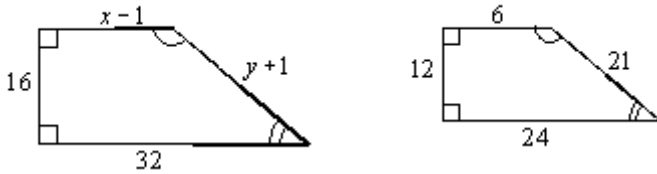
Not drawn to scale.

13.

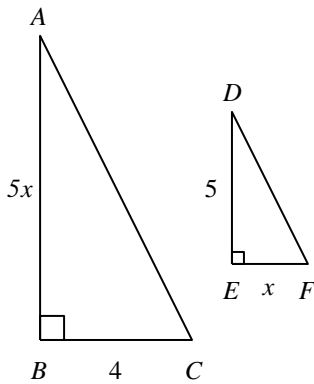
- A. $ABCD \sim KLMN$; $10 : 1.2$
 B. The polygons are not similar.
 C. $ABCD \sim KLMN$; $5 : 1.2$
 D. $ABCD \sim NKLM$; $5 : 3.12$

The polygons are similar, but not necessarily drawn to scale. Find the value of x .

14.

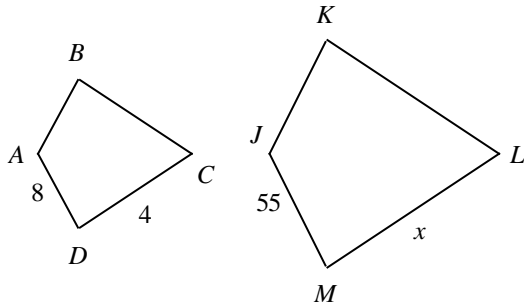


- A. $x = 8$
 B. $x = \frac{11}{2}$
 C. $x = 9$
 D. $x = 10$

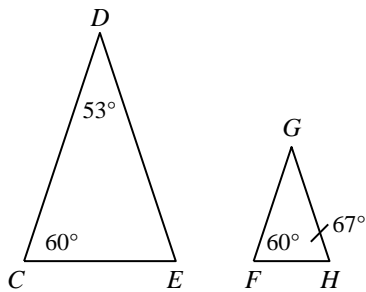


15.

- A. 1
 B. 2
 C. 4
 D. 20

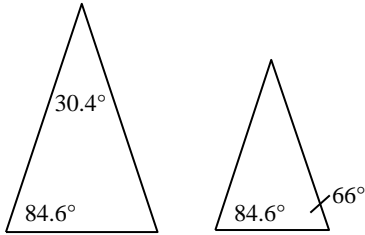


16. A. 220 B. 27.5 C. 110 D. 15.8
17. You are reducing a map of dimensions 2 ft by 3 ft to fit to a piece of paper 8 in. by 10 in. What are the dimensions of the largest possible map that can fit on the page?
 A. $6\frac{2}{3}$ in. by 10 in. C. 8 in. by $6\frac{2}{3}$ in.
 B. $5\frac{1}{3}$ in. by 10 in. D. 8 in. by 10 in.
18. In a diagram of a landscape plan, the scale is 1 cm = 10 ft. In the diagram, the trees are 3.1 centimeters apart. How far apart should the actual trees be planted?
 A. 3.1 feet C. 310 feet
 B. 31 feet D. 31 centimeters
19. In a scale drawing of the solar system, the scale is 1 mm = 500 km. For a planet with a diameter of 9000 kilometers, what should be the diameter of the drawing of the planet?
 A. 180 millimeters C. 4500000 millimeters
 B. 18 millimeters D. 9000 millimeters
20. Are the two triangles similar? How do you know?



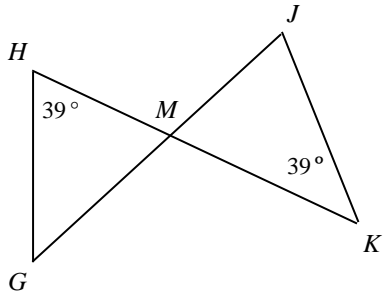
- A. yes, by SAS~ C. yes, by AA~
 B. yes, by SSS~ D. no

___ 21. Are the triangles similar? How do you know?



- A. yes, by SAS~ B. yes, by SSS~ C. yes, by AA~ D. no

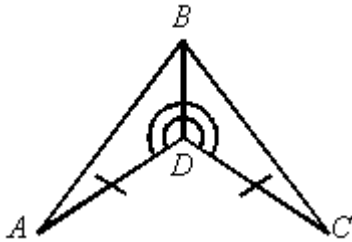
___ 22. Are the two triangles similar? How do you know?



- A. no B. yes, by SSS~ C. yes, by AA~ D. yes, by SAS~

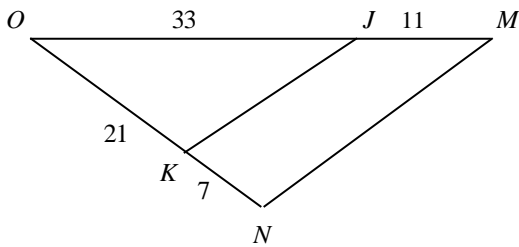
State whether the triangles are similar. If so, write a similarity statement and the postulate or theorem you used.

___ 23.

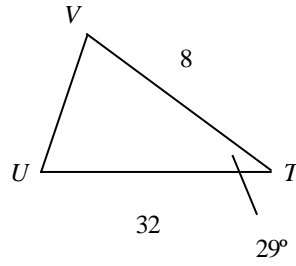
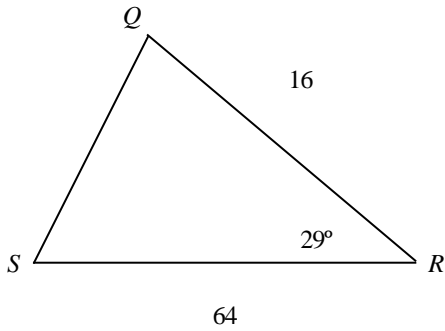


- A. $\triangle ADB \sim \triangle CDB$; SAS~ C. $\triangle ADB \sim \triangle CDB$; SSS~
 B. $\triangle ABD \sim \triangle CDB$; SAS~ D. The triangles are not similar.

___ 24.



- A. $\triangle OMN \sim \triangle OJK$; SAS~ C. $\triangle OMN \sim \triangle OJK$; SSS~
 B. $\triangle OMN \sim \triangle JKO$; SAS~ D. The triangles are not similar.



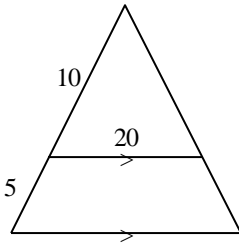
25.

- A. $\triangle SRQ \sim \triangle UVW$; ASA~
- B. $\triangle QRS \sim \triangle VTU$; SAS~

- C. $\triangle RSQ \sim \triangle TUV$; ASA~
- D. The triangles are not similar.

Which theorem or postulate proves the two triangles are similar?

26.

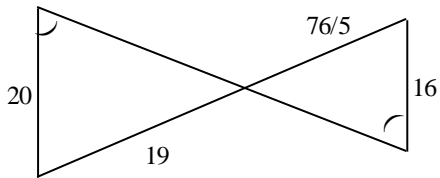


Not drawn to scale.

- A. AS Postulate
- B. SSS Theorem

- C. AA Postulate
- D. SAS Theorem

27.



Not drawn to scale.

- A. SA~ Postulate
- B. AA~ Postulate

- C. SSS~ Theorem
- D. SAS~ Theorem