

You are reducing a map of dimensions 2 feet by 3 feet to fit on a piece of paper 8 inches by 10 inches. What are the dimensions of the largest possible map that can fit on the page?

- a. $6\frac{2}{3}$ inches by 10 inches
- b. $5\frac{1}{2}$ inches by 10 inches
- c. 8 inches by $6\frac{2}{3}$ inches
- d. 8 inches by 10 inches

A bell tower is 17 meters tall. It casts a long shadow on the ground below. The tip of the shadow of the bell tower is 51 meters from the base of the bell tower. At the same time, a tall elm tree casts a shadow that is 63 meters long. If the right triangle formed by the tower and its shadow is similar to the right triangle formed by the elm and its shadow, how tall is the elm to the nearest tenth?

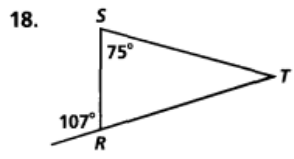
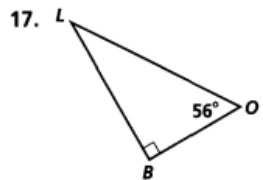
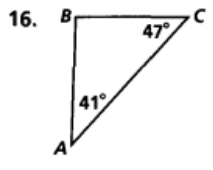
- a. 13.8 meters
- b. 21 meters
- c. 189 meters
- d. 3.7 meters

Can a triangle have sides with the given lengths? Explain.

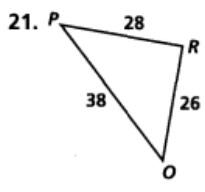
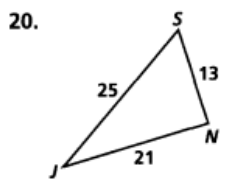
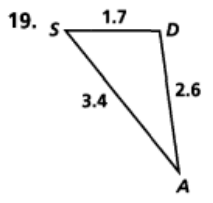
- 7. 4 m, 7 m, and 8 m
- 8. 6 m, 10 m, and 17 m
- 10. 1 yd, 9 yd, and 9 yd
- 11. 11 m, 12 m, and 13 m
- 13. 1.2 cm, 2.6 cm, and 4.9 cm
- 14. $8\frac{1}{2}$ yd, $9\frac{1}{4}$ yd, and 18 yd

- 9. 4 in., 4 in., and 4 in.
- 12. 18 ft, 20 ft, and 40 ft
- 15. 2.5 m, 3.5 m, and 6 m

List the sides of each triangle in order from shortest to longest.



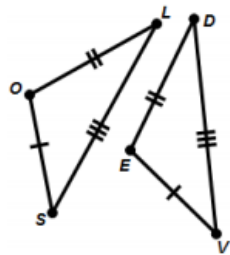
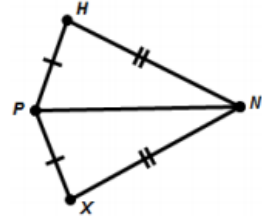
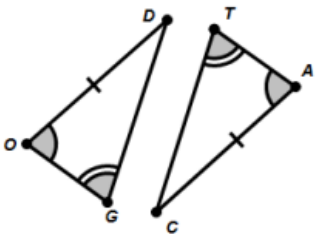
List the angles of each triangle in order from largest to smallest.



The lengths of two sides of a triangle are given. Describe the lengths possible for the third side.

- 22. 4 in., 7 in.
- 23. 9 cm, 17 cm
- 24. 5 ft, 5 ft
- 25. 11 m, 20 m
- 26. 6 km, 8 km
- 27. 24 in., 37 in.

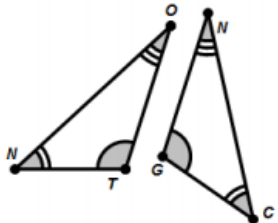
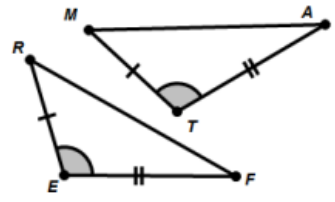
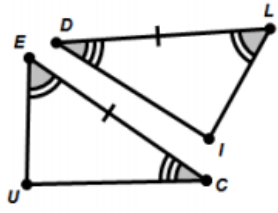
1. Tell which of the following triangle provide enough information to show that they must be congruent. If they are congruent, state which theorem suggests they are congruent (SAS, ASA, SSS, AAS, HL) and write a congruence statement.



Circle one of the following: SSS SAS ASA AAS HL Not Enough Information
Congruence Statement if necessary:

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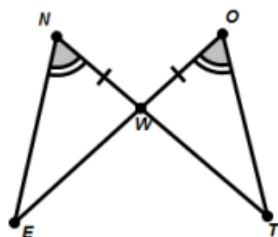
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Congruence Statement if necessary:



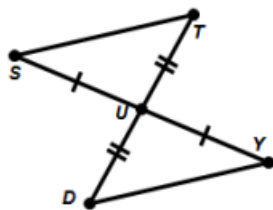
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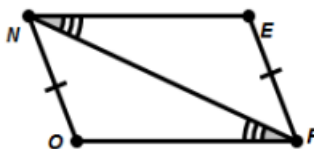
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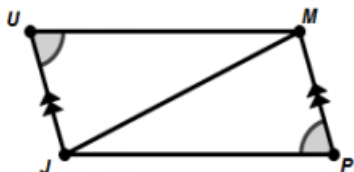
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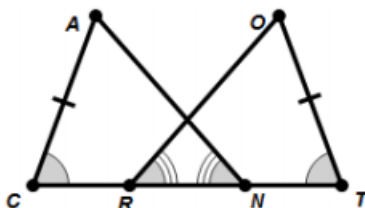
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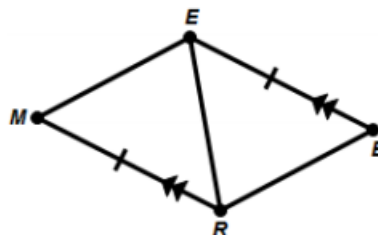
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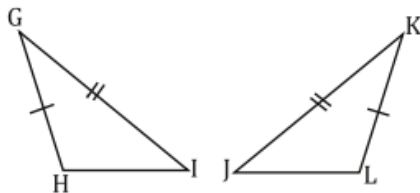
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Fill in the missing information in each proof.

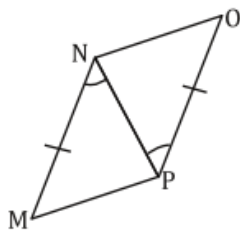
4. Given: $\overline{GH} \cong \overline{KL}$, $\angle G \cong \angle K$, and $\overline{GI} \cong \overline{KJ}$



Prove: $\overline{HI} \cong \overline{LJ}$

Statements	Reasons
1. $\overline{GH} \cong \overline{KL}$	1. Given
2.	2. Given
3. $\overline{GI} \cong \overline{KJ}$	3.
4.	4. SAS
5. $\overline{HI} \cong \overline{LJ}$	5.

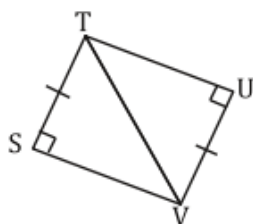
5. Given: $\angle MNP \cong \angle OPN$, and $\overline{MN} \cong \overline{OP}$



Prove: $\overline{MP} \cong \overline{NO}$

Statements	Reasons
1.	1. Given
2. $\overline{MN} \cong \overline{OP}$	2.
3. $\overline{NP} \cong \overline{NP}$	3.
4. $\triangle MNP \cong \triangle OPN$	4.
5.	5. CPCTC

6. Given: $\overline{ST} \cong \overline{VU}$

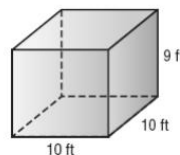


Prove: $\angle SVT \cong \angle UTV$

Statements	Reasons
1.	1. Given
2.	2. Reflexive Property
3.	3. HL
4. $\angle SVT \cong \angle UTV$	4.

A rectangular storage box is 12 in. wide, 15 in. long, and 9 in. high. How many square inches of colored paper are needed to cover the surface of the box?

Rebecca is loading medical supply boxes into a crate. Each supply box is 1.5 feet tall, 1 foot wide, and 2 feet deep. The crate is 9 feet high, 10 feet wide, and 10 feet deep.



What is the maximum number of supply boxes can she pack in this crate?

- a. 200 b. 300 c. 450 d. 600