SHMS 8th Geometry (SHMS8Geometry)

Name:_____ Date:_____

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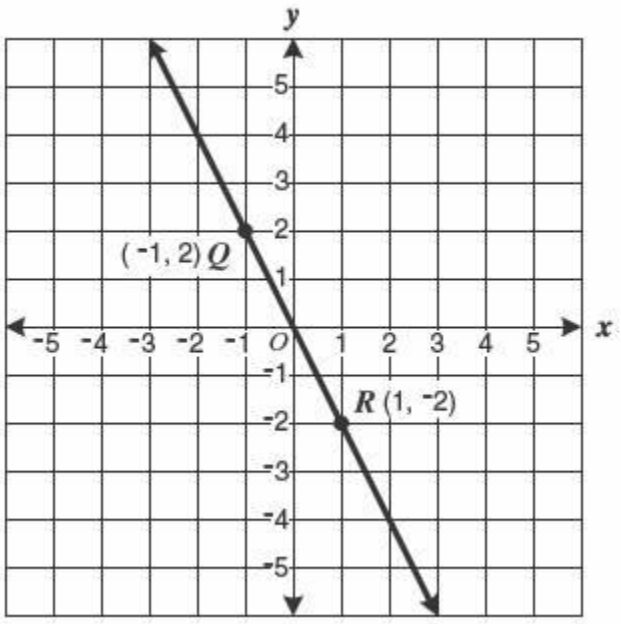
1. 

Which two points determine a line parallel to $\overleftrightarrow{QR}$?

A. (1, 1) and (2, -1)

B. (-1, -1) and (-2, -3)

C. (1, 4) and (5, 2)

D. (2, 1) and (-2, -1)

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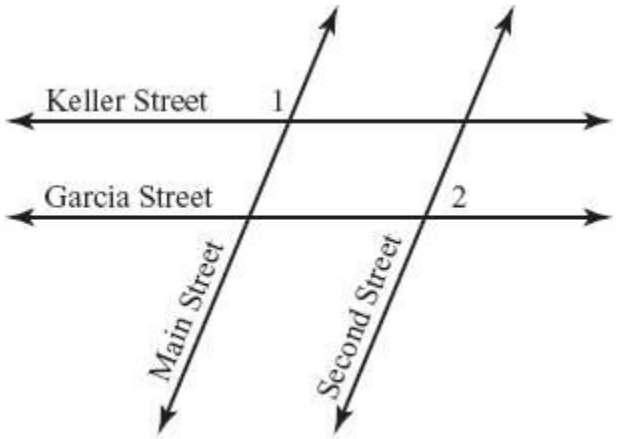
2. The lines in the diagram below represent four streets in Linda's hometown.



Keller Street is parallel to Garcia Street, and Main Street is parallel to Second Street.

If $m\angle 1 = 95°$, what is $m\angle 2$?

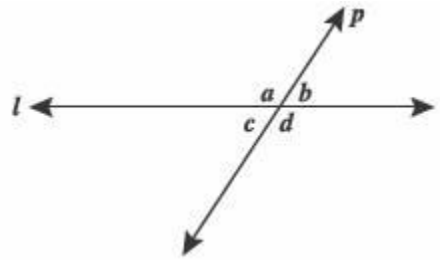
A. 75°

B. 85°

C. 95°

D. 105°

3. **In the diagram below, lines *l* and *p* intersect.**



If the measure of $\angle a$ is $109°$, what is the measure of $\angle b$?

A. $109°$

B. $100°$

C. $71°$

D. $19°$

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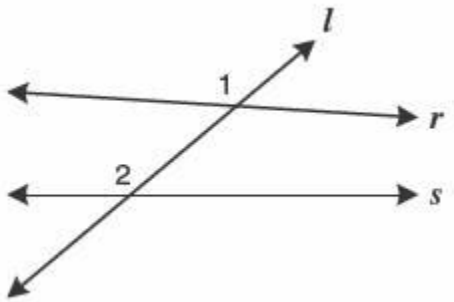
4. **The figure shows line *l* intersecting lines *r* and *s*.**



In the figure, ∠1 and ∠2 are —

A. alternate interior angles

B. alternate exterior angles

C. corresponding angles

D. consecutive interior angles

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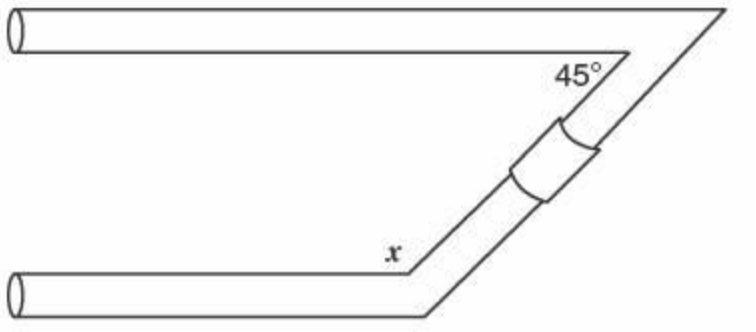
5. 

Two parallel sections of pipe are joined with a connecting pipe as shown. What is the value of *x*?

A. $90°$

B. $115°$

C. $135°$

D. $160°$

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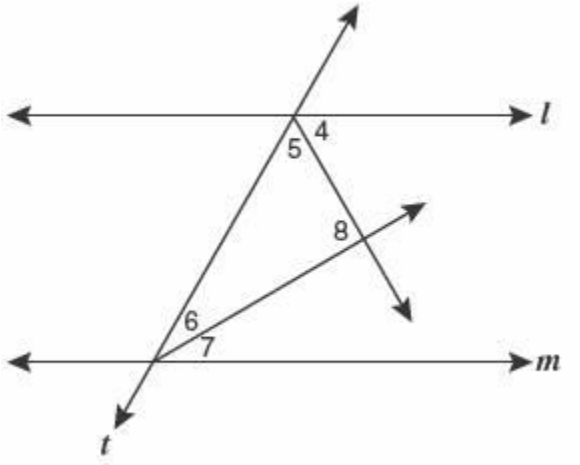
6. **Parallel lines *l* and *m* are cut by transversal *t*, $m\angle 4 = m\angle 5$, and $m\angle 6 = m\angle 7$.**



What is the measure of ∠8?

A. 120°

B. 90°

C. 65°

D. 45°

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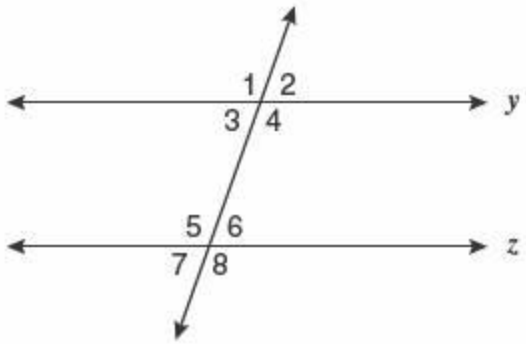
Given: m∠1 = 110°



7. **Which must be true if $y \| z$?**

A. $m\angle 8 = 100°$

B. $m\angle 7 = 110°$

C. $m\angle 6 = 80°$

D. $m\angle 5 = 110°$

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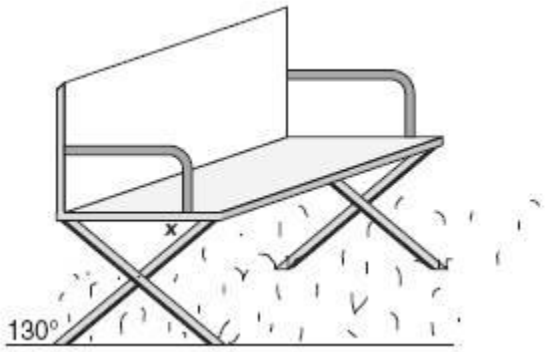
8. **The support legs on a bench are attached in such a way that the angle made by one leg with the ground is 130°**.



What must the measure of the angle marked x be in order for the seat of the bench to be parallel to the ground?

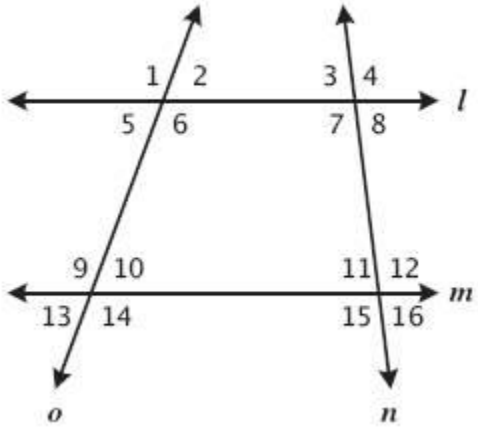
A. 50°

B. 65°

C. 90°

D. 130°

9.



In the drawing above, $\angle 4$ and $\angle 12$ are —

A. alternate interior angles.

B. consecutive interior angles.

C. corresponding angles.

D. a linear pair.

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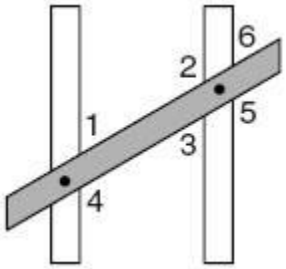
10. **A carpenter nailed a board across two beams, forming the angles shown.**



Which equal measures would ensure the beams are parallel?

A. $m\angle 1 = m\angle 2$

B. $m\angle 1 = m\angle 3$

C. $m\angle 1 = m\angle 3$

D. $m\angle 3 = m\angle 4$

11.

A city park has two congruent flowerbeds. The flowerbeds are shown as triangles PQR and STU.

Which angle is congruent to P?

A. R

B. S

C. T

D. U

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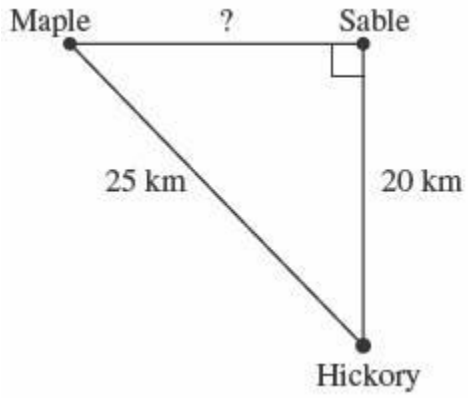
12. The roads connecting the three towns on the map below form a right triangle. Two of the distances are given.



Based on the distances given on the map, what is the distance between Maple and Sable?

A. 12 km

B. 15 km

C. 16 km

D. 19 km

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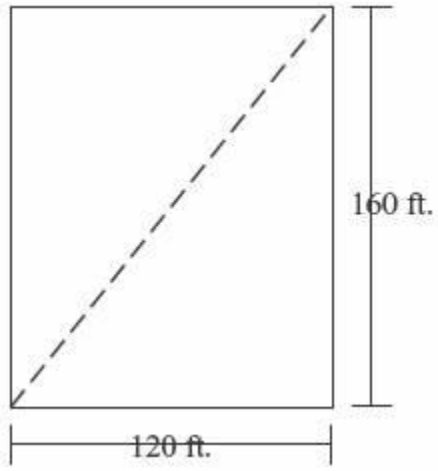
13. The diagram below shows the dimensions of a rectangular field.



What is the length of a diagonal of the field?

A. 120 ft.

B. 200 ft.

C. 394 ft.

D. 520 ft.

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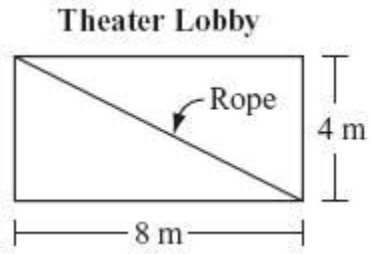
14. The floor of the lobby of a theater is shaped like a rectangle, as shown below.



Before a performance starts, a velvet rope is stretched diagonally across the lobby. Which of the following best describes the diagonal length of the lobby?

A. between 8 and 9 meters

B. between 9 and 10 meters

C. between 10 and 11 meters

D. between 11 and 12 meters

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15. **Which is closest to the height of a cone that has a slant height of 16 inches and a radius of 6 inches?**

A. 10 in.

B. 14.8 in.

C. 20 in.

D. 17.1 in.

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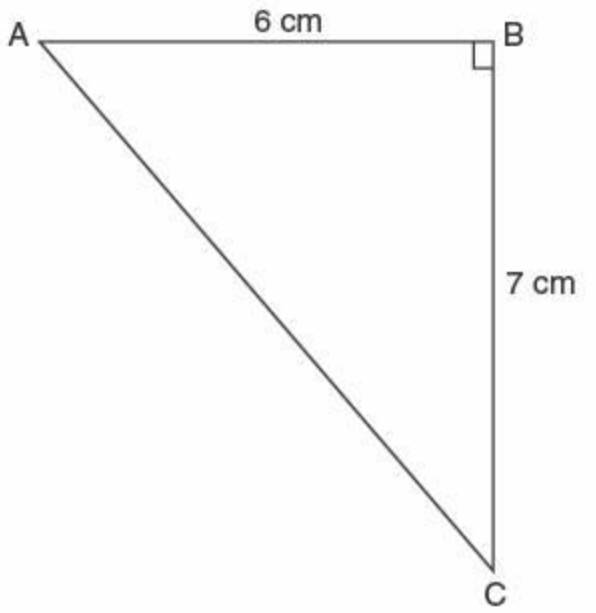

16.

What is the length of $\overline{AC}$?

A. $\sqrt{85}$ cm

B. $\sqrt{13}$ cm

C. 8 cm

D. 10 cm

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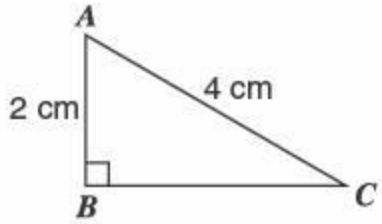
17.



What is the length of $\overline{BC}$?

A. 2 cm

B. 5 cm

C. $\sqrt{12}$ cm

D. $\sqrt{20}$ cm

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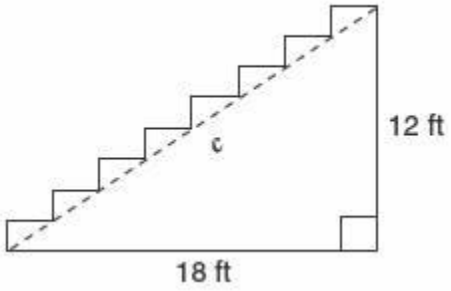
18. **A board that is *c* feet long supports the stairs as shown below.**



To find the value of *c*, Britney used the following expression.

$$\sqrt{12^2 + 18^2}$$

What is *c* to the nearest tenth of a foot?

A. 36.0 ft

B. 30.0 ft

C. 21.6 ft

D. 13.4 ft

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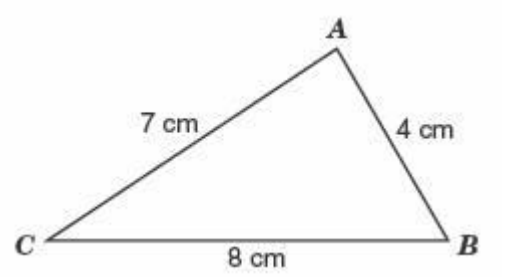
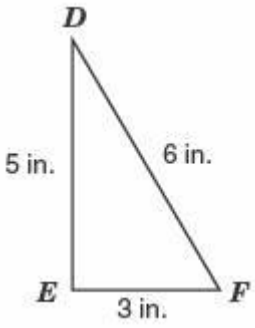
19. **Using the measures shown, which triangle must be a right triangle?**

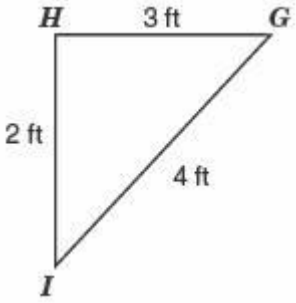
A.



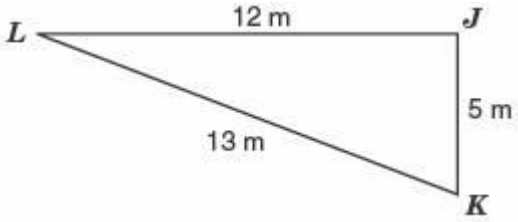
B.



C.



D.



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20.

Which is a statement of the Pythagorean Theorem?

A. The area of square is determined by multiplying the length of one side by itself.
B. A particular type of polygon that has eight equal side lengths and eight equal angles.
C. The area of the square built upon the hypotenuse of a right triangle is equal to the sum of the areas of the squares upon the remaining sides.
D. The sum of two sides of a triangle is always greater than the length of the third side.

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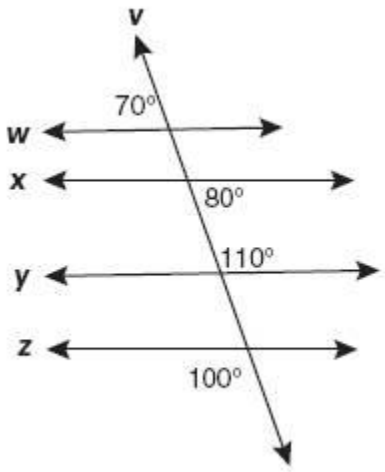
21. **Line v is a transversal.**



Which is a true statement?

A. $w \parallel y$ and $x \parallel z$

B. $w \parallel x$ and $y \parallel z$

C. $w \parallel z$ and $x \parallel y$

D. $w \parallel x$ and $x \parallel y$