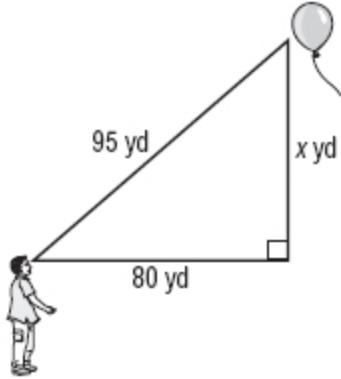


**Chapter 5 Test 2 SG**

- 1) In the diagram, Jorge let go of the string tied to his balloon. Write and solve an equation to find how far above Jorge's head the balloon is. Round your answer to the nearest tenth if necessary.

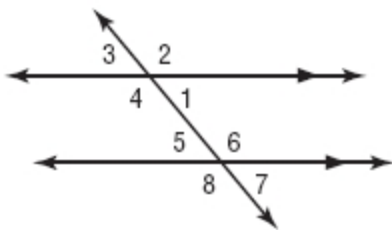


*Enter the appropriate value to answer the question or solve the problem.*

- 2) Maude's living room is in the shape of a rectangle. Its dimensions are 21 feet by 14 feet. Find the length of the diagonal of the living room in feet. Round your answer to the nearest tenth if necessary.
- 3) Find the distance, in units, between points  $M(-4, 6)$  and  $N(10, -5)$ . Round to the nearest tenth if necessary.
- 4) What is the measure of an exterior angle of a regular hexagon?
- 5) **RIGHT TRIANGLE** A right triangle has an acute angle that measures  $42^\circ$ . What are the measures of the other angles?

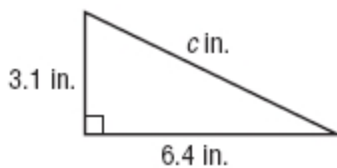
**Chapter 5 Test 2 SG**

Use the figure below.



6) If  $m\angle 5 = 70^\circ$ , find  $m\angle 2$ .

7) Write an equation you could use to find the length of the missing side of the triangle. Then find the missing length. Round to the nearest tenth if necessary.

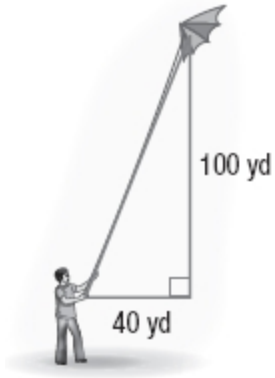


8) Find the distance between the pair of points. Round to the nearest tenth if necessary.

$A(2, 11), B(-7, 9)$

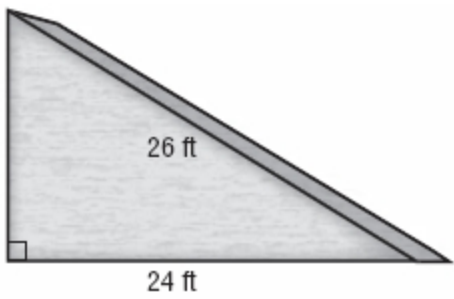
**Chapter 5 Test 2 SG**

9) Justin is flying a kite as shown below.



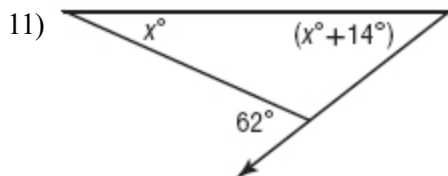
Which of the following is closest to the length of the string?

10) Mario drew a sketch of a skateboard ramp he wants to build. What is the height in feet of the skateboard ramp shown below?



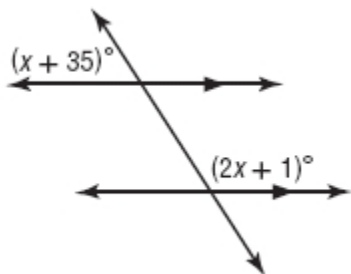
*Enter the appropriate value to answer the question or solve the problem.*

**Find the value of  $x$  in each figure.**



**Chapter 5 Test 2 SG**

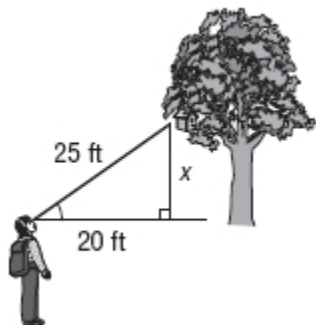
12)



13) Find the measure in degrees of an exterior angle of a regular decagon.

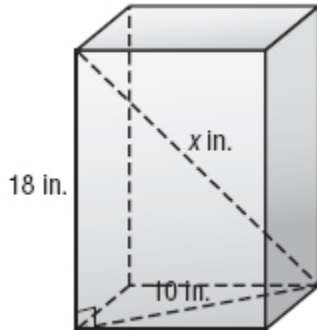
14) Find the sum of the measures in degrees of the interior angles of a 50-gon.

15) An observer is standing 20 feet from a tree with a hanging birdhouse. She is looking at the birdhouse. How far from the ground is the birdhouse? Round to the nearest tenth if necessary.



**Chapter 5 Test 2 SG**

- 16) Kenneth wants to wrap a collapsible fishing rod in the box shown at the right. Find the length of the diagonal of the box. Round to the nearest tenth if necessary.



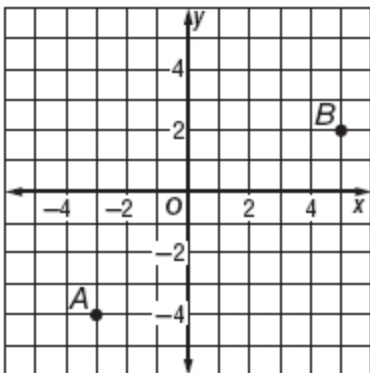
- 17) A shelf is in the shape of a triangle. Find the angles of the triangle if the measures of the angles are in the ratio  $x : x : 4x$ .
- 18) A triangle has side lengths of 10 inches, 24 inches, and 26 inches. Is the triangle a right triangle? Explain.
- 19) Coty painted a right triangle on paper. The hypotenuse of his triangle is 18 inches and one of the legs is 7 inches. What is the length of the third side? Round to the nearest tenth if necessary.

*Enter the appropriate value to answer the question or solve the problem.*

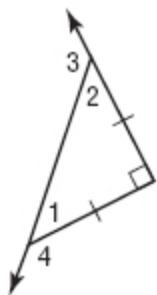
- 20) Find the distance, in units, between points  $P(3, -8)$  and  $Q(7, 4)$ . Round to the nearest tenth if necessary.

**Chapter 5 Test 2 SG**

21) What is the distance between points  $A$  and  $B$  shown on the coordinate plane?



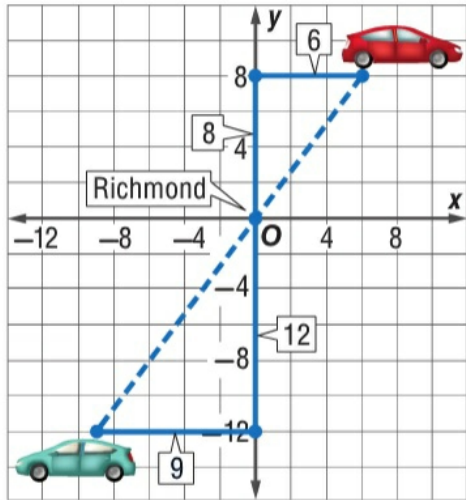
22) What is the measure of angle 3?



**Chapter 5 Test 2 SG**

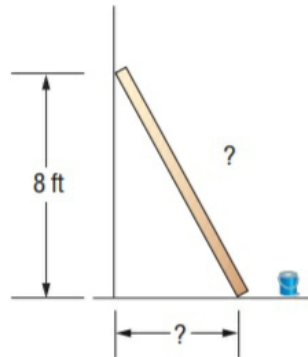
Enter the appropriate value to answer the question or solve the problem.

- 23) Two cars leave a house in Richmond, Virginia. One of the cars travels 8 miles north and then 6 miles east. The second car travels 12 miles south and then 9 miles west. How far apart are the cars?



To ensure the safety of his workers, Walter requires that the base of a ladder be one foot from a wall for every four feet it reaches up the wall.

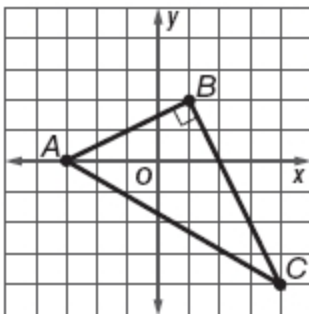
- a. If a ladder reaches eight feet up a wall, how far should its base be from the wall?
- b. How long must the ladder be to reach a height of eight feet?
- c. **Challenge** What is the highest a ten-foot ladder can reach?



24)

**Chapter 5 Test 2 SG**

25) Which of the following is closest to the perimeter of the triangle below?





**Chapter 5 Test 2 SG**

**Answer Key**

1)  $x^2 + 80^2 = 95^2$ ; 51.2 yd

2) 25.2

3) 17.8

4)  $60^\circ$

5)  $48^\circ, 90^\circ$

6)  $110^\circ$

7)  $3.1^2 + 6.4^2 = c^2$ ; 7.1 in.

8) 9.2 units

9) 108 yd

10) 10 ft

11) 24

12) 48

13) 36

14) 8,640

15)  $x^2 + 20^2 = 25^2$ ; 15 ft

16)  $10^2 + 18^2 = x^2$ ; 20.6 in

17)  $30^\circ, 30^\circ, 120^\circ$

18) Yes;  $10^2 + 24^2 = 26^2$

19) 16.6 in.

20) 12.6

21) 10 units

22)  $135^\circ$

23) 25 mi

24) a. 2 ft

b. 8.3 ft

c. 9.7 ft

25) 19 units