

TEST NAME: **NAMSCM811314G-7**

TEST ID: **129111**

GRADE: **08**

SUBJECT: **Mathematics**

TEST CATEGORY: **My Classroom**

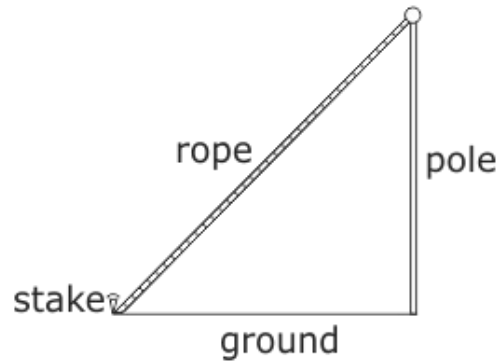
Student: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1. Which set of measurements could be the side lengths of a right triangle?
  - A. {10 cm, 12 cm, 16 cm}
  - B. {20 cm, 21 cm, 29 cm}
  - C. {30 cm, 32 cm, 42 cm}
  - D. {40 cm, 42 cm, 56 cm}
  
2. A right triangle has a hypotenuse of 11.5 inches. One of its legs is 7.5 inches. What is the **approximate** length of the other leg?
  - A. 4.0 inches
  - B. 4.4 inches
  - C. 8.7 inches
  - D. 13.7 inches

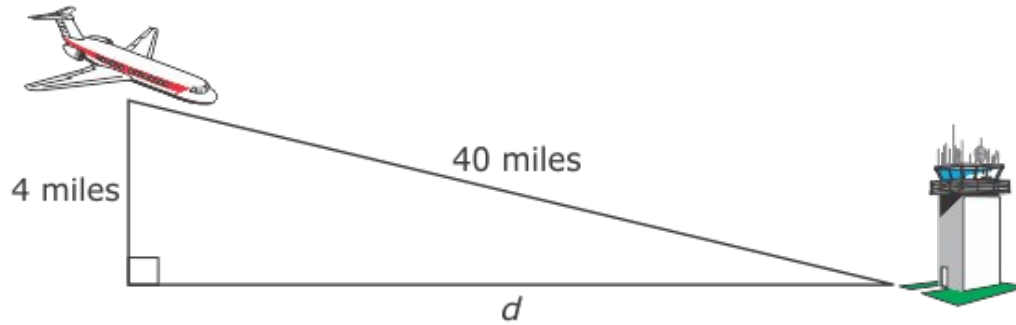
3. A rope 10 feet long is tied to the top of an 8-foot pole.



If the rope is pulled tightly, how far from the bottom of the pole should the rope be staked to the ground?

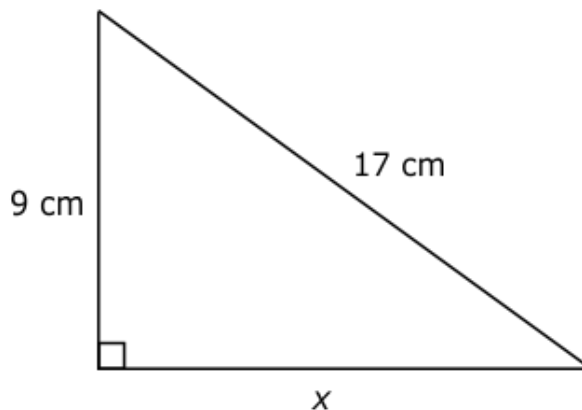
- A. 2 feet
  - B. 6 feet
  - C. 9 feet
  - D. 13 feet
4. A right triangle has an area of  $60 \text{ cm}^2$ . The base of the triangle is 15 cm long. What is the length of the hypotenuse of the right triangle?
- A. 16 cm
  - B. 17 cm
  - C. 18 cm
  - D. 19 cm

5. In the picture below, an airplane is 40 miles (air distance) from the airport and is at an elevation of 4 miles.



What is the **approximate** ground distance ( $d$ ) the airplane is from the airport?

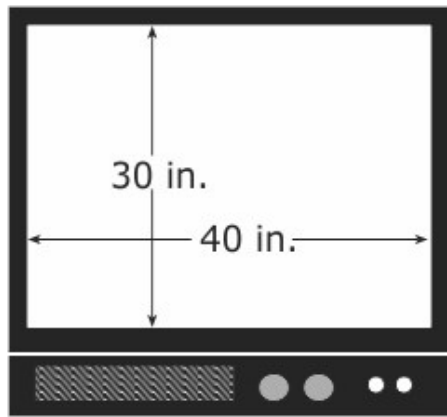
- A. 20.4 mi
  - B. 36.0 mi
  - C. 39.8 mi
  - D. 44.0 mi
6. A right triangle is shown below.



What is the **approximate** measure of the missing side,  $x$ ?

- A. 8 cm
- B. 14 cm
- C. 19 cm

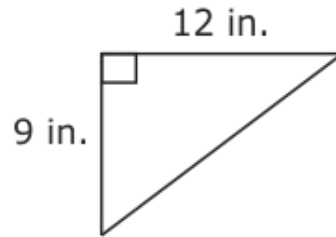
7. The length of a football field is 360 feet and the width is 160 feet. What is the **approximate** length of the diagonal of the football field?
- A 260 feet
  - B 322 feet
  - C 394 feet
  - D 416 feet
8. What is the diagonal measurement of the television screen shown in the figure below?



- A 35 in.
  - B 50 in.
  - C 70 in.
  - D 1,200 in.
9. A 90-foot wire runs from the top of a cell phone tower to the ground 63 feet from the base of the tower. **Approximately** how tall is the cell phone tower?
- A 27 feet
  - B 64 feet
  - C 77 feet
  - D 110 feet

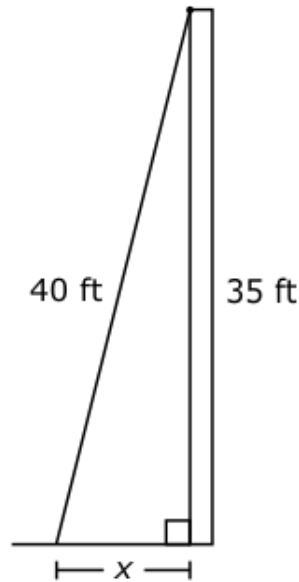
10. A square checkerboard has four sides that are each 15 inches long. **About** how far will a checker travel if it starts in one corner of the board and travels diagonally to the opposite corner of the board?
- A. 30 inches
  - B. 25 inches
  - C. 20 inches
  - D. 15 inches
11. Sarah left the boat dock and sailed 5 miles due east. She turned and then sailed 10 miles due north. **About** how far is Sarah from the boat dock?
- A. 9 miles
  - B. 10 miles
  - C. 11 miles
  - D. 15 miles
12. A boat starts in Riverton and sails 5 miles North. Then, the boat sails East another 3 miles, forming a right angle. What is the **approximate** shortest distance back to Riverton?
- A. 2 miles
  - B. 4 miles
  - C. 6 miles
  - D. 8 miles

13. What is the length of the hypotenuse in the right triangle below?



- A. 8 in.
- B. 15 in.
- C. 20 in.
- D. 21 in.

14. A 40-foot wire is attached to a pole and runs to the ground as shown below. The pole is 35 feet tall.

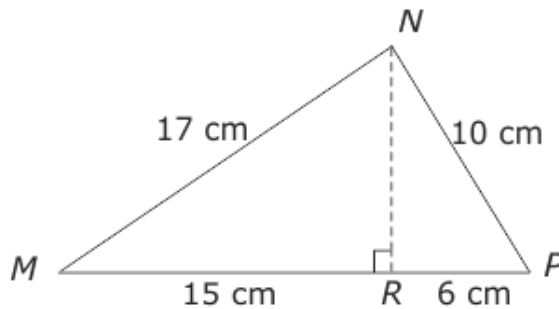


**About** how far away from the pole is the wire attached to the ground,  $x$ ?

- A. 19 feet
- B. 53 feet
- C. 75 feet

15. The length of the hypotenuse of a right triangle is 8 cm. The length of one of its legs is 6 cm. What is the **approximate** area of the right triangle?
- A.  $48 \text{ cm}^2$
  - B.  $32 \text{ cm}^2$
  - C.  $24 \text{ cm}^2$
  - D.  $16 \text{ cm}^2$

16. In the figure below is  $\triangle MNP$ .

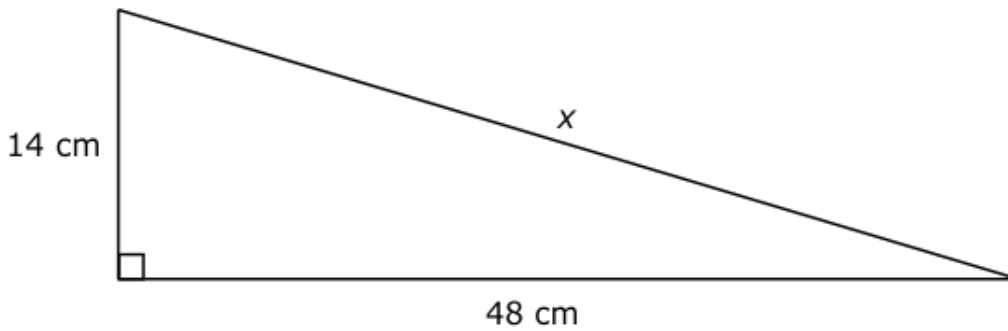


What is the area of  $\triangle MNP$ ?

- A.  $84 \text{ cm}^2$
- B.  $105 \text{ cm}^2$
- C.  $158 \text{ cm}^2$
- D.  $168 \text{ cm}^2$



17. What is the length of the hypotenuse,  $x$ , in the right triangle below?

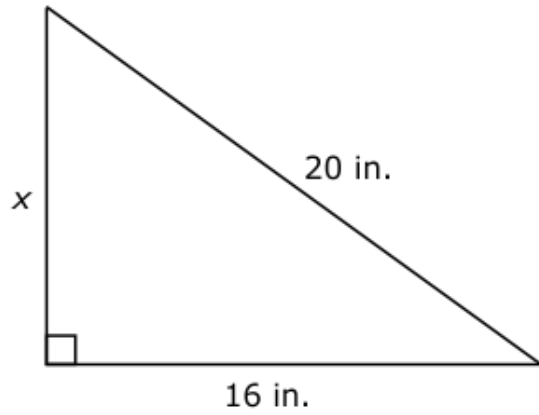


- A. 46 cm
- B. 50 cm
- C. 62 cm

18. A soccer field is 100 yards long and 60 yards wide. What is the **approximate** length from one corner of the field to the opposite corner of the field?

- A. 80 yards
- B. 120 yards
- C. 140 yards
- D. 160 yards

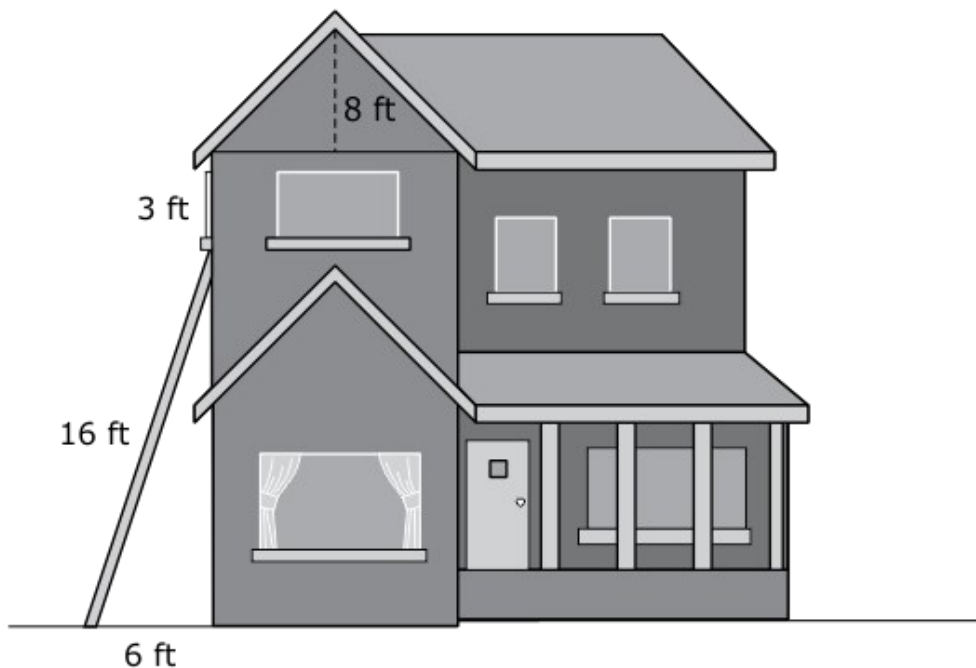
19. A right triangle is shown below.



What is the measure of the missing side,  $x$ ?

- A 12 in.
  - B 18 in.
  - C 26 in.
20. The legs of a right triangle measure 4 inches and 7 inches. What is the **approximate** length of the hypotenuse?
- A 8 inches
  - B 10 inches
  - C 11 inches
  - D 14 inches

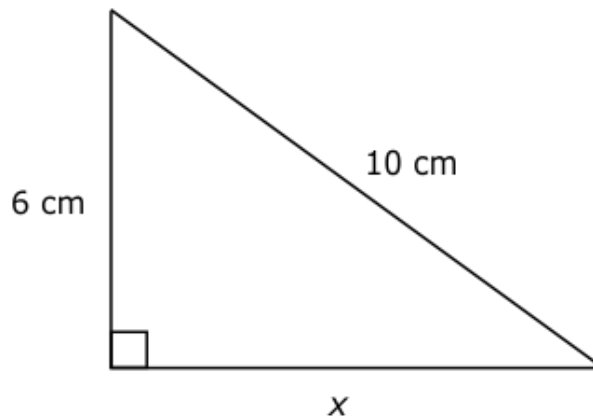
21. A 16-ft ladder leans against a house and is 3 ft from the edge of the roof, as shown in the drawing below.



What is the **approximate** height of the house, including the roof?

- A. 24 ft
- B. 26 ft
- C. 27 ft
- D. 28 ft

22. A right triangle is shown below.



What is the measure of the missing side,  $x$ ?

- A 4 cm
- B. 8 cm
- C. 12 cm

23. Walltown is 25 miles east of Park City.

- Park City is 38 miles south of Edenton.
- Michael drove from Edenton to Park City, and then to Walltown.
- Leah drove straight from Edenton to Walltown.

**About** how much farther did Michael drive than Leah?

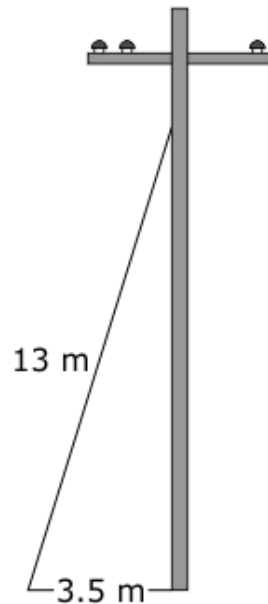
- A 17.5 miles
- B. 25 miles
- C. 34 miles
- D. 45.5 miles

24. Mr. Lopez has a rectangular classroom that measures 36 feet by 28 feet. What is the **approximate** diagonal measurement of the room?

- A 23 feet
- B. 44 feet
- C. 46 feet

25. Sara draws a rectangle with a length of 78 inches and a width of 39 inches. She draws a diagonal line from one corner to the other. **Approximately** how long is the diagonal line?
- A. 59 inches
  - B. 68 inches
  - C. 87 inches
  - D. 117 inches

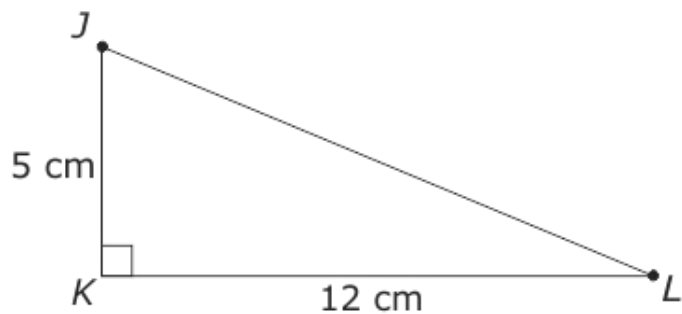
26. A wire is attached to a pole and runs to the ground.



**About** how high is the wire attached to the pole?

- A. 3.7 m
- B. 9.5 m
- C. 12.5 m
- D. 13.5 m

27. What is the perimeter of  $\triangle JKL$  below?

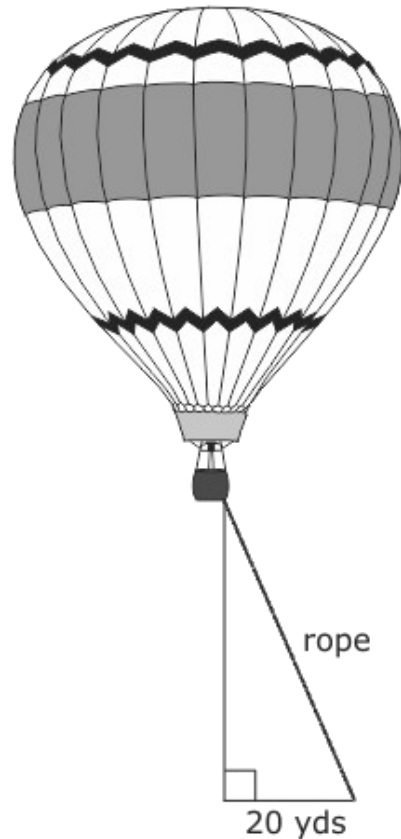


- A. 28 cm
- B. 30 cm
- C. 34 cm
- D. 36 cm

28. Which set of measurements could be the side lengths of a right triangle?

- A.  $\{2\text{ ft}, 3\text{ ft}, 5\text{ ft}\}$
- B.  $\{3\text{ ft}, 6\text{ ft}, 9\text{ ft}\}$
- C.  $\{5\text{ ft}, 12\text{ ft}, 13\text{ ft}\}$
- D.  $\{6\text{ ft}, 9\text{ ft}, 12\text{ ft}\}$

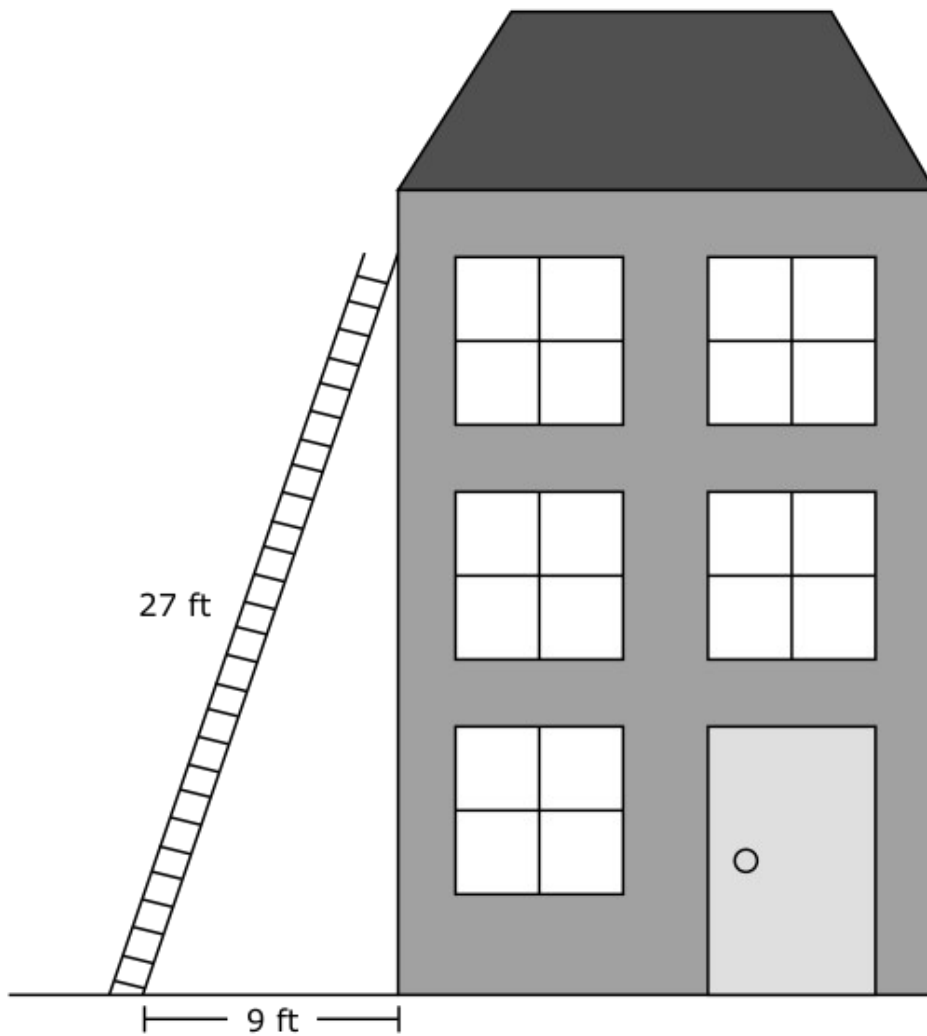
29. A hot air balloon is tied to the ground by a 200-yd rope as shown in the picture below.



The balloon is floating 20 yds west of where the rope is tied to the ground. **About** how high in the air is the hot air balloon?

- A. 180 yds
  - B. 199 yds
  - C. 201 yds
  - D. 220 yds
30. The width of a rectangular swimming pool is 16 ft. The diagonal of the swimming pool is 34 ft. What is the length of the swimming pool?
- A. 22 ft
  - B. 25 ft
  - C. 30 ft
  - D. 38 ft

31. A ladder is leaning against a house as shown below.

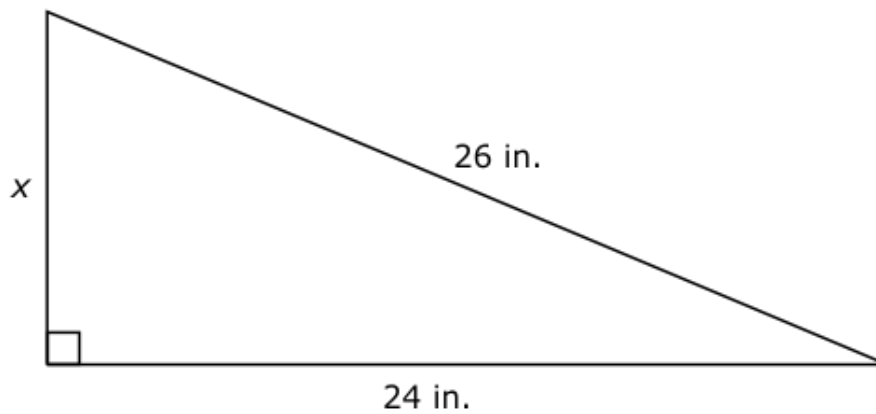


**About** how high up the house does the ladder reach?

- A. 18 ft
- B. 25 ft
- C. 28 ft



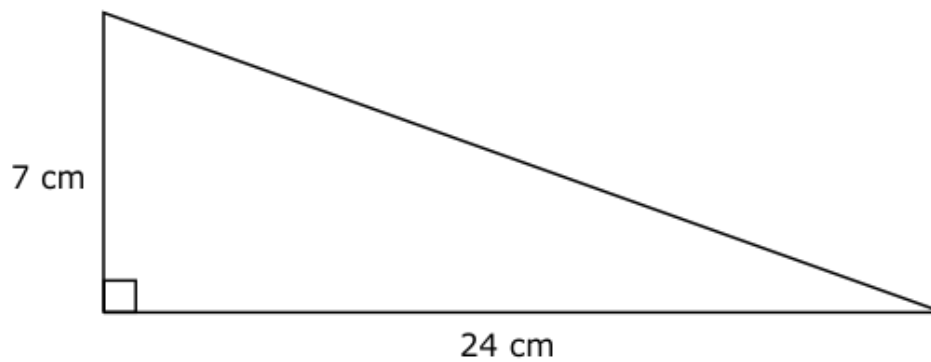
32. A right triangle is shown below.



What is the measure of the missing side,  $x$ , of the triangle?

- A 10 in.
- B 15 in.
- C 25 in.

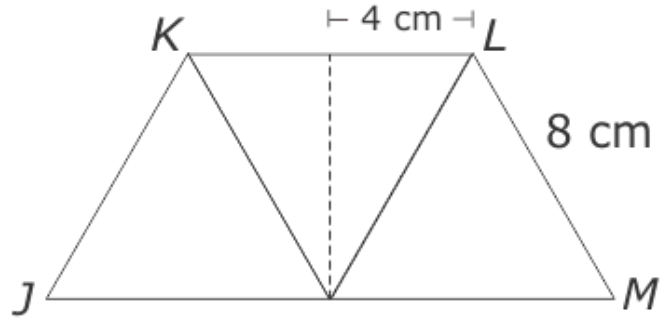
33. A right triangle is shown below.



What is the length of the hypotenuse of the triangle?

- A 41 cm
- B 31 cm
- C 25 cm

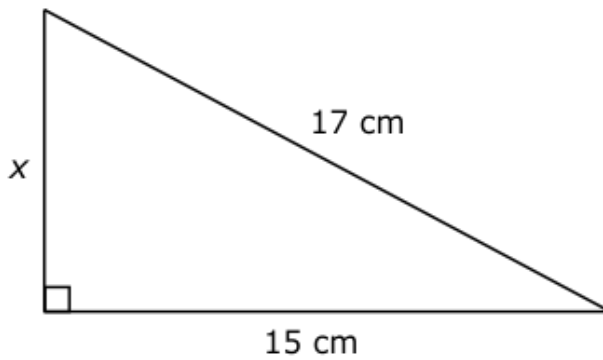
34. Quadrilateral  $JKLM$  contains 3 equilateral triangles. All 3 triangles have a side length of 8 cm.



What is the **approximate** area of the quadrilateral?

- A.  $83 \text{ cm}^2$
  - B.  $96 \text{ cm}^2$
  - C.  $108 \text{ cm}^2$
  - D.  $192 \text{ cm}^2$
35. A rectangular television screen has a diagonal measurement of 52 inches and a width of 32 inches. What is the **approximate** length of the television screen?
- A. 22 inches
  - B. 41 inches
  - C. 42 inches
  - D. 61 inches

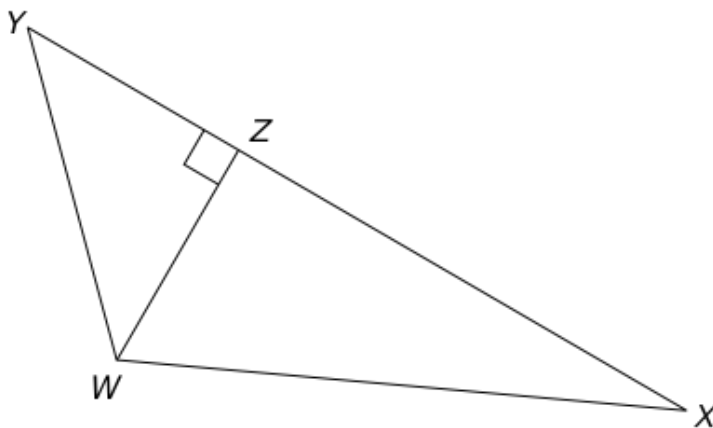
36. A right triangle is shown below.



What is the measure of the missing side,  $x$ ?

- A. 13 cm
  - B. 12 cm
  - C. 8 cm
37. Dennis has a 15-foot ladder. He placed it 5 feet from the base of the house and then leaned the ladder against the house. **About** how far up the house does the ladder reach?
- A. 20 feet
  - B. 18 feet
  - C. 16 feet
  - D. 14 feet
38. The legs of a right triangle measure 10 m and 24 m. What is the length of the third side of the right triangle?
- A. 17 m
  - B. 22 m
  - C. 26 m
  - D. 34 m

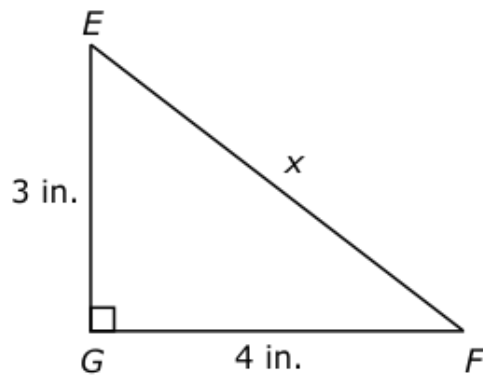
39. The side lengths of a square are 16 cm each. What is the **approximate** length of the diagonal of the square?
- A 17 cm
  - B 23 cm
  - C 24 cm
  - D 32 cm
40. Which measurements below are lengths of the sides of a right triangle?
- A 10 cm, 24 cm, 39 cm
  - B 15 cm, 24 cm, 28 cm
  - C 20 cm, 48 cm, 52 cm
  - D 25 cm, 50 cm, 75 cm
41. In triangle  $WXY$  below,  $XY$  measures 16 cm,  $YZ$  measures 4 cm, and  $WX$  measures 13 cm.



What is the area of triangle  $WXY$ ?

- A  $40 \text{ cm}^2$
- B  $60 \text{ cm}^2$
- C  $80 \text{ cm}^2$
- D  $100 \text{ cm}^2$

42. Triangle  $EFG$  is shown below.

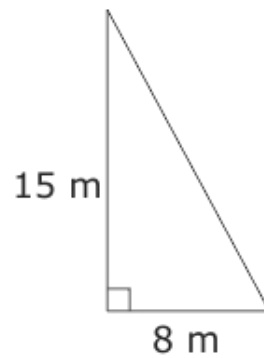


What is the measure of side  $EF$ ?

- A. 5 in.
  - B. 6 in.
  - C. 7 in.
43. Which set of measurements could be the side lengths of a right triangle?
- A. {3 in., 5 in., 7 in.}
  - B. {6 in., 9 in., 12 in.}
  - C. {8 in., 15 in., 17 in.}
  - D. {10 in., 20 in., 30 in.}
44. Linda bought a rectangular-shaped table.
- The top of the table has a width of 56 inches.
  - The diagonal of the top of the table was 64 inches.
- What is the **approximate** area of the top of the table?
- A. 1,736 square inches
  - B. 1,984 square inches
  - C. 3,584 square inches
  - D. 4,762 square inches

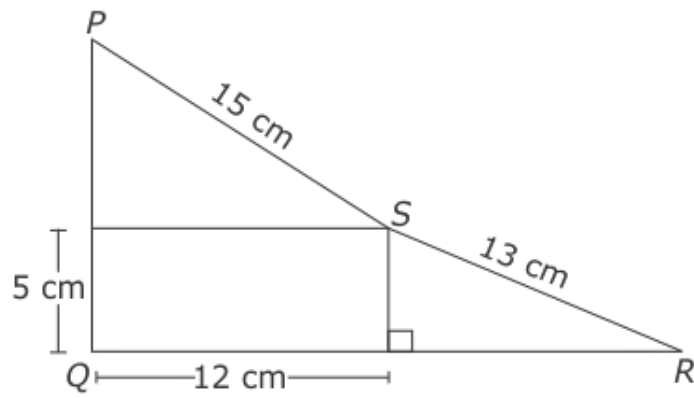
45. Amy's television screen is in the shape of a rectangle. The height of the television screen is 24 inches and the width is 55 inches. What is the **approximate** diagonal measurement of the television screen?
- A. 50 inches
  - B. 60 inches
  - C. 79 inches

46. What is the length of the hypotenuse in the triangle below?



- A. 13 m
- B. 17 m
- C. 19 m
- D. 22 m

47. Figure  $PQRS$  below is made up of a rectangle and two right triangles.



What is the perimeter of figure  $PQRS$ ?

- A.  $78\text{ cm}$
- B.  $66\text{ cm}$
- C.  $62\text{ cm}$
- D.  $45\text{ cm}$