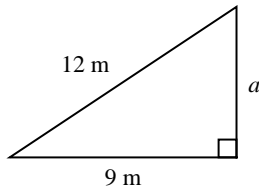


Study Guide -- Pythagorean Theorem

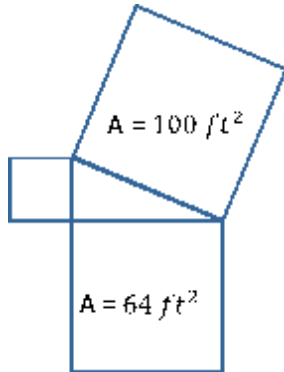
Multiple Choice (85 points; 5.3 points each)

Identify the choice that best completes the statement or answers the question.

1. Find the length of the unknown side. Round your answer to the nearest tenth.

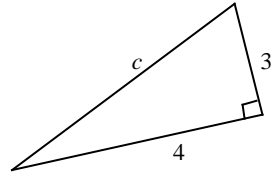


- A. 3 m
B. 15 m
C. 7.9 m
D. 63 m
2. Find the *side length* of the smallest side of the right triangle.

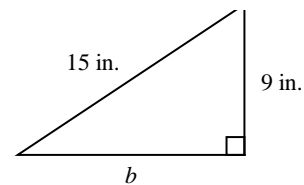


- A. 36 ft
B. 6 ft
C. 164 ft
D. 13 ft
3. The length of two sides of a right triangle are leg: 12 m and hypotenuse: 15 m. Find the length of the third side.
- A. 1 m
B. 6 m
C. 9 m
D. 27 m

4. Find the length of the hypotenuse. Round your answer to the nearest hundredth.

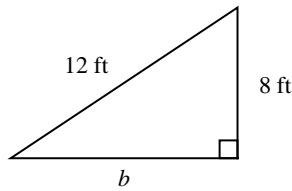


- A. 7.94
B. 5.00
C. 7.00
5. The length of two sides of a right triangle are leg: 11 m and hypotenuse: 22 m. Find the length of the third side. Round to the nearest tenth if necessary.
- A. 28.8 m
B. 19.1 m
C. 363 m
D. 14.4 m
6. Find the following: $\sqrt[3]{125}$
- A. $21\frac{1}{3}$
B. 5
C. 41.7
D. 7
7. Find the length of the unknown side. Round your answer to the nearest tenth.



- A. 12 in.
B. 6 in.
C. 144 in.

8. Find the length of the unknown side. Round your answer to the nearest tenth.

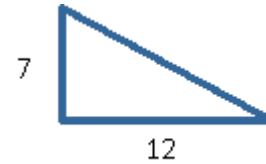


- A. 14.4 ft
B. 8.9 ft
C. 80 ft
D. 4 ft
9. Kim is the catcher for her school's softball team. The catcher must be able to throw from home plate to second base. What is the distance from home plate to second base? Each base is 60 feet apart.



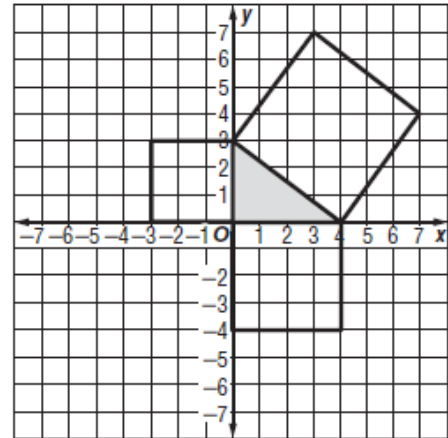
- A. 60 ft
B. $60\sqrt{2}$ ft
C. 120
D. $120\sqrt{2}$ ft
10. A rectangular park has been constructed in downtown Lilburn. The designer wants to put a gravel walkway that cuts *diagonally* through the park. If the width of the park is 12 feet and the height of the park is 9 feet, what is the length of his walkway?
- A. 15 feet
B. 21 feet
C. 8 feet
D. 7 feet

11. Which of the following equations could be used to find the length of the hypotenuse of the following right triangle?



- A. $7^2 + 12^2 = c$
B. $\sqrt{7^2 + 12^2} = c$
C. $12^2 - 7^2 = c$
D. $\sqrt{12^2 - 7^2} = c$
12. Find the distance between the two points: $(-5, -6)$, $(3, 1)$. Round your answer to the nearest tenth.
- A. 7.8
B. 10.6
C. 113.0
D. 3.3
13. A grid shows the position of a subway stop and your house. The subway stop is located at $(-10, -25)$ and your house is located at $(-3, -1)$. What is the distance between your house and the subway stop?
- A. 15
B. 25
C. 17
D. 19
14. A standard packing box has a volume of 216 cubic inches. What is the length of any edge of this cube?
- A. 6 inches
B. 3 inches
C. 108 inches
D. 36 inches
15. The bottom of a ladder must be placed 4 feet from a wall. The ladder is 13 feet long. How far above the ground does the ladder touch the wall? Round your number to the nearest tenth.
- A. 10.4 feet
B. 11.4 feet
C. 12.4 feet
D. 14.4 feet

16. What is the area of the smallest square in the figure shown?



- A. 3 square units
- B. 9 square units
- C. 25 square units
- D. 5 square units

Short Answer (15 points)

17. Decide whether the three points are the vertices of a right triangle. **Explain** your reasoning.
 A: $(-4, -1)$, B: $(2, 5)$, C: $(1, -6)$ **(10 points)** [Study Guide hint, find the distances of AB, BC, and AC]

18. There is a Chick-fil-a exactly 5 miles due east of Berkmar Middle School. There is also a Wal-Mart 10 miles due north of Berkmar Middle School. How far is the Chick-fil-a from the Wal-Mart? Leave your answer in its simplest radical form. **(5 points)**

Study Guide -- Pythagorean Theorem

Answer Section

MULTIPLE CHOICE

1. C
2. B
3. C
4. B
5. B
6. B
7. A
8. B
9. B
10. A
11. B
12. B
13. B
14. A
15. C
16. B

SHORT ANSWER

17. Yes
AB = $\sqrt{72}$
BC = $\sqrt{122}$
AC = $\sqrt{50}$
 $72 + 50 = 122$
18. $5\sqrt{5}$