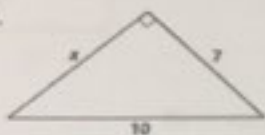


Practice 7-2

Pythagorean Theorem and its Converse

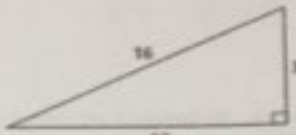
Find the value of each variable. Leave your answers in simplest radical form.

1.



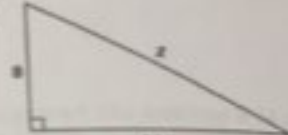
$$x = \sqrt{51}$$

2.



$$y = 4\sqrt{7}$$

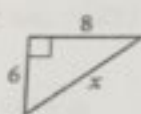
3.



$$z = 2\sqrt{65}$$

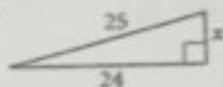
Algebra Find the value of x .

1.



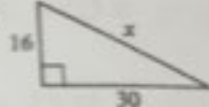
$$x = 10$$

2.



$$x = 7$$

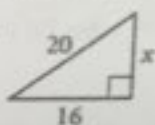
3.



$$x = 34$$

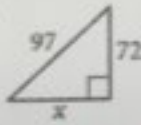
Algebra Find the value of x .

4.



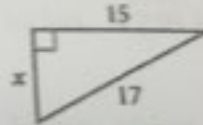
$$x = 12$$

5.



$$x = 65$$

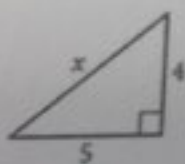
6.



$$x = 8$$

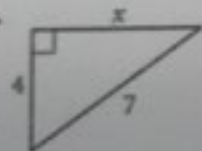
Algebra Find the value of x . Leave your answer in simplest radical form.

10.



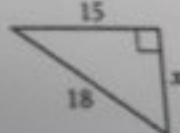
$$x = \sqrt{41}$$

11.

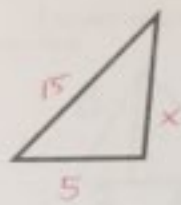


$$x = \sqrt{33}$$

12.

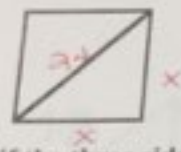


$$x = 3\sqrt{11}$$



16. Home Maintenance A painter leans a 15-ft ladder against a house. The base of the ladder is 5 ft from the house. To the nearest foot, how high on the house does the ladder reach?

$x = 10\sqrt{2}$



17. A walkway forms the diagonal of a square playground. The walkway is 24 m long. To the nearest tenth of a meter, how long is a side of the playground?

$x = \sqrt{288}$
 $x = 17.0$

State if the three sides lengths form a right triangle.

1) 12 mi, $\sqrt{113}$ mi, $\sqrt{257}$ mi *yes*

2) 9 ft, $\sqrt{41}$ ft, $\sqrt{123}$ ft *no*

3) 4 in, 10 in, $2\sqrt{29}$ in *yes*

4) 14 in, 16 in, $2\sqrt{85}$ in *no*

State if the three side lengths form an acute, obtuse, or right triangle. Make sure you know which side is the longest ("c").

5) 7 yd, 6 yd, $\sqrt{85}$ yd *Right*

6) $\sqrt{145}$ km, 10 km, $\sqrt{250}$ km *obtuse*

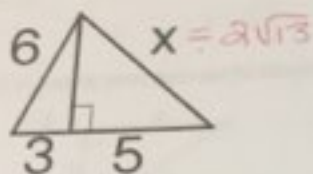
7) 11 in, $2\sqrt{26}$ in, 15 in *Right*

8) $2\sqrt{39}$ km, 13 km, 16 km *acute*

9) 5 km, 7 km, $\sqrt{72}$ km *acute*

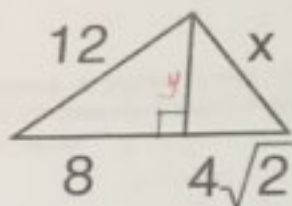
10) 5 in, $4\sqrt{6}$ in, 14 in *obtuse*

1. You will need to find the length of the altitude first.



$$x = 2\sqrt{13}$$

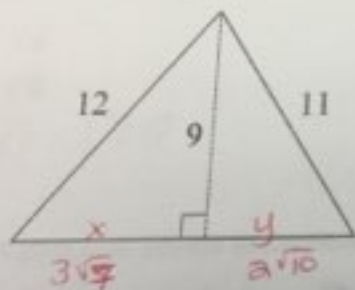
3.



$$x = 4\sqrt{7}$$

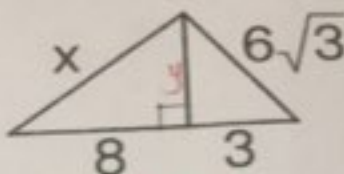
$$y = 4\sqrt{5}$$

Find the area of the triangle.



$$A = \frac{27\sqrt{7}}{2} + 9\sqrt{10}$$

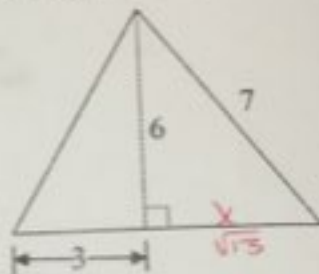
2.



$$x = 2\sqrt{63}$$

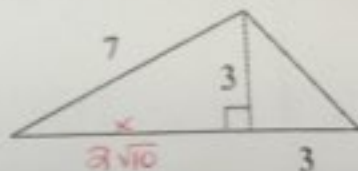
$$y = 49$$

4. Find the area of the triangle.



$$A = 9 + 3\sqrt{7}$$

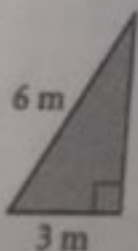
2. Find the area of the triangle.



$$A = \frac{9}{2} + 3\sqrt{10}$$

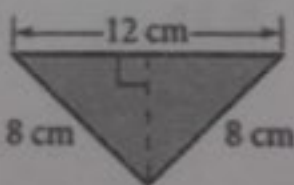
Find the area of each triangle. Leave your answer in simplest radical form.

18.



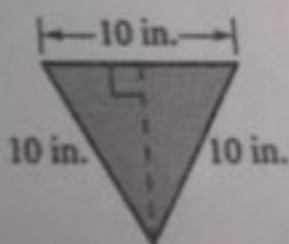
$$A = \frac{9\sqrt{3}}{2}$$

19.



$$A = 6\sqrt{7}$$

20.



$$A = \frac{25\sqrt{3}}{2}$$