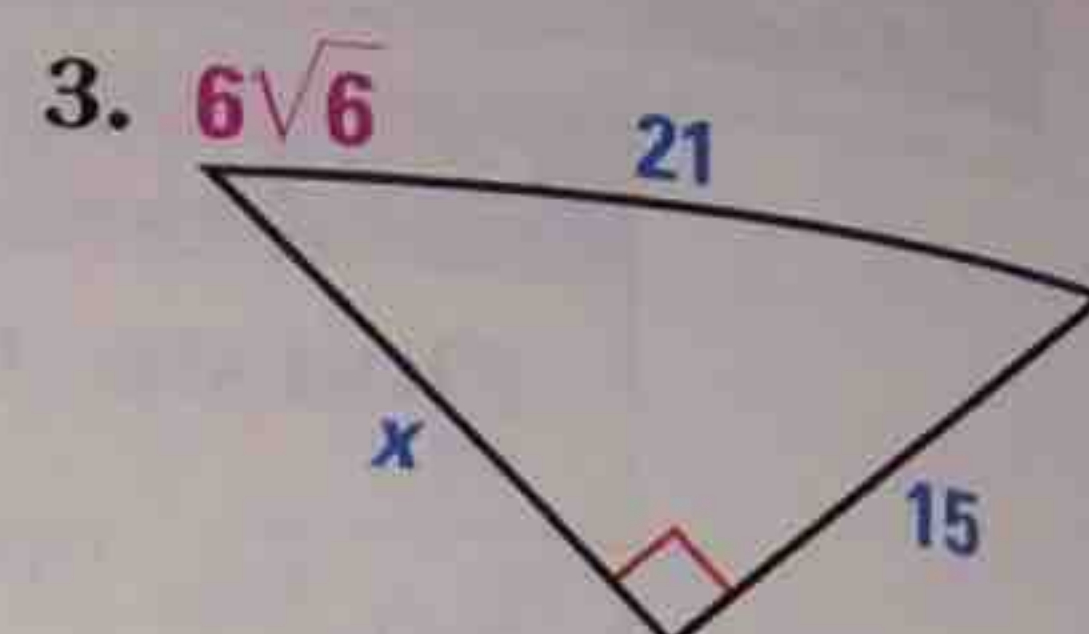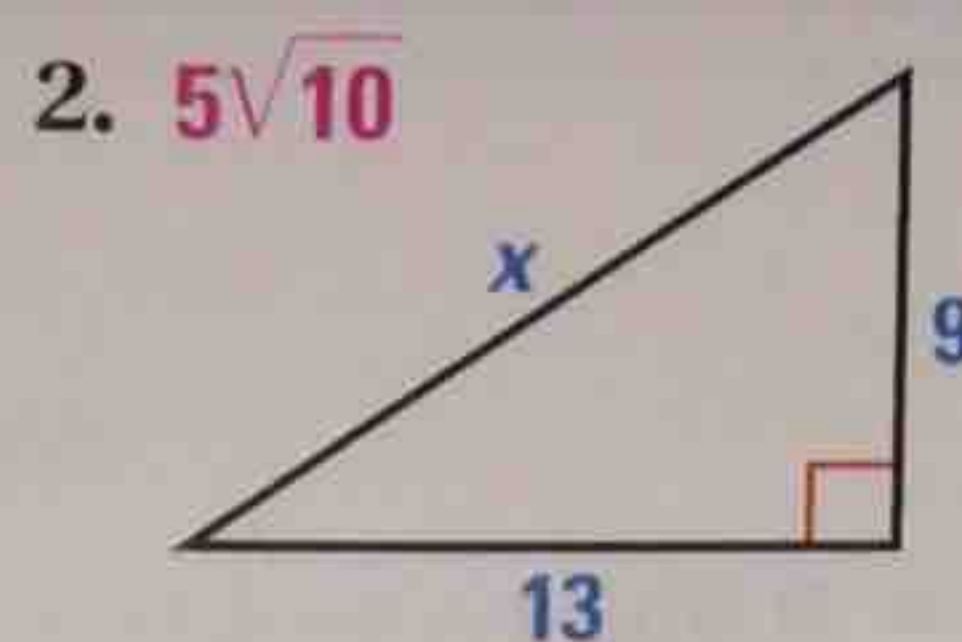**Find the value of x. Write your answer in simplest radical form.**
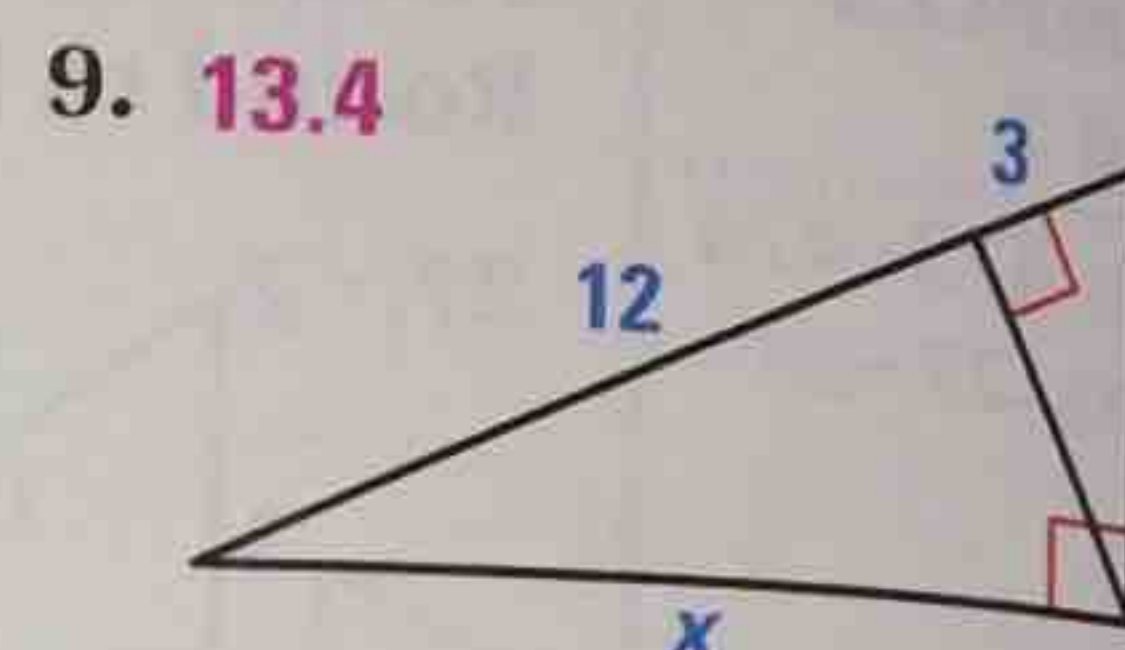
1.

16

20

12

x

2. $5\sqrt{10}$

x

9

13
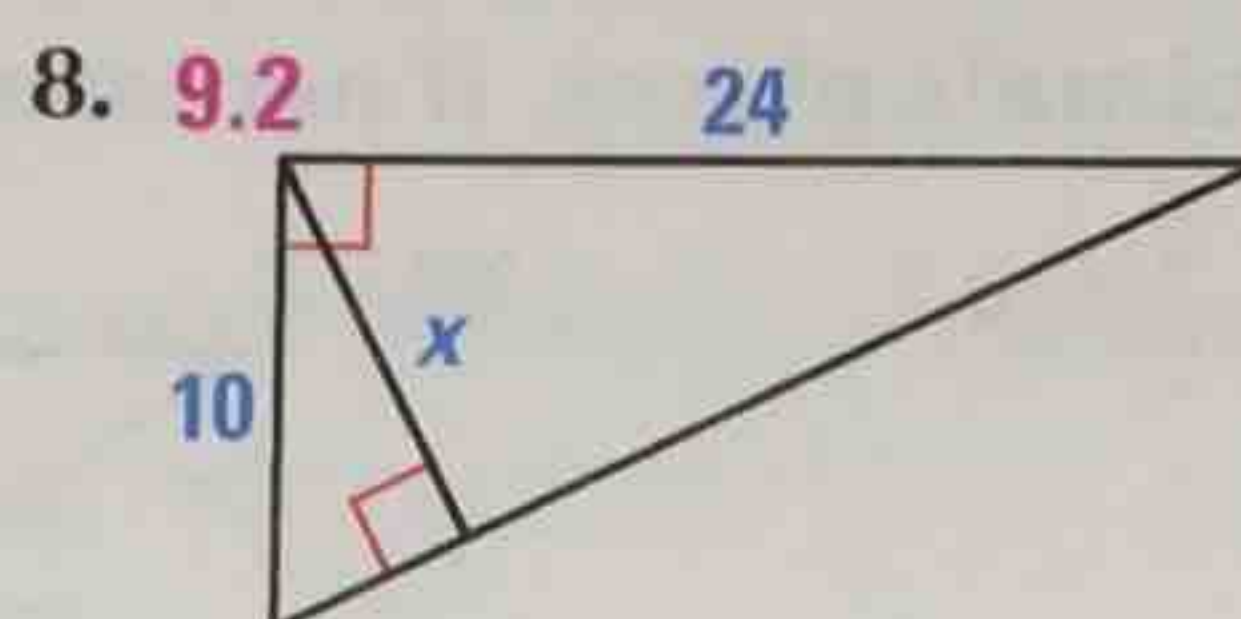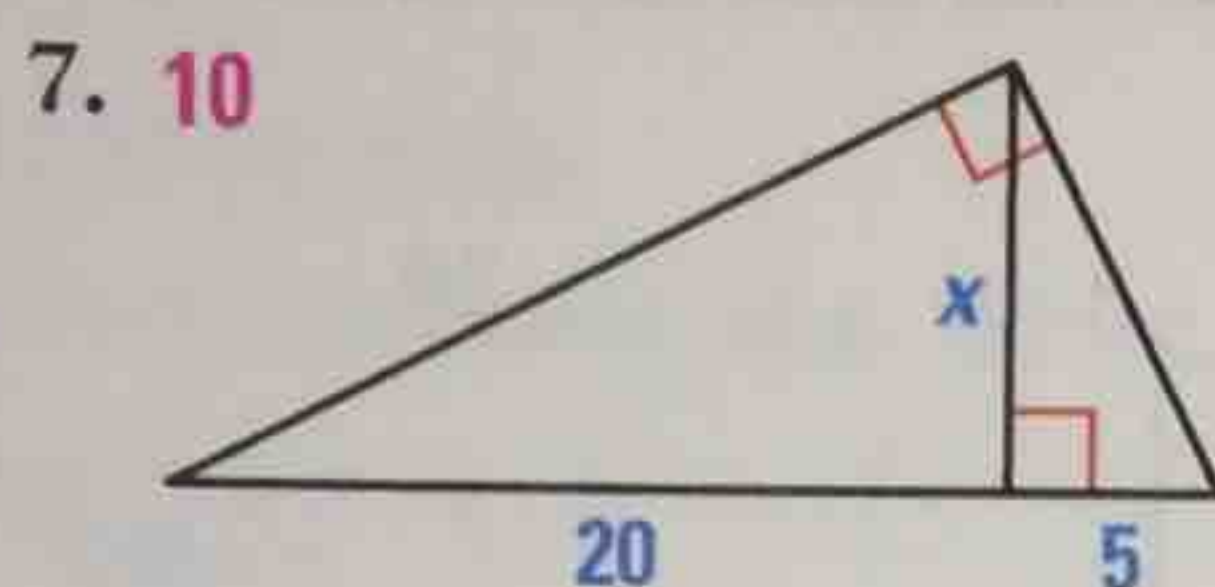
3. $6\sqrt{6}$

21

x

15
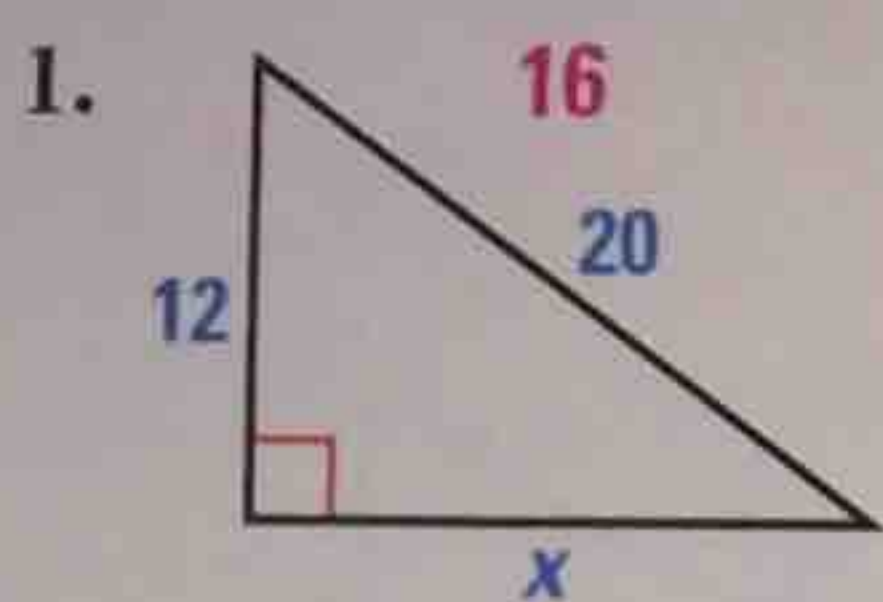
Classify the triangle as *acute*, *right*, or *obtuse*.
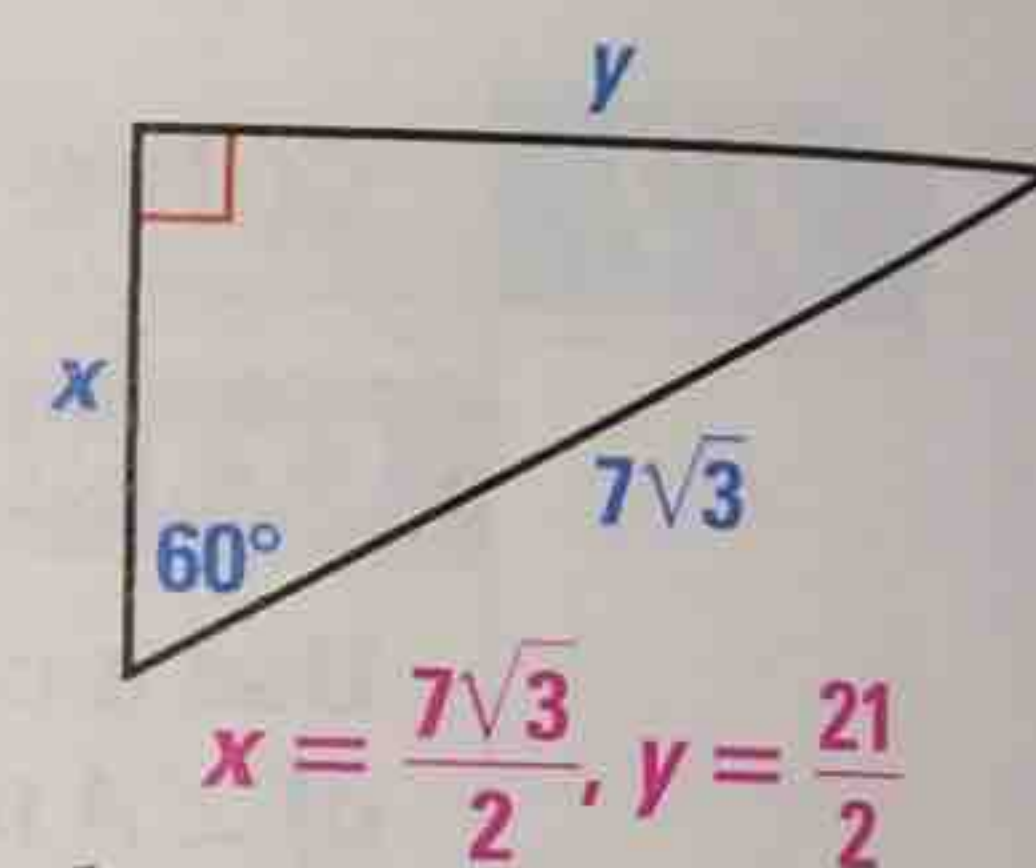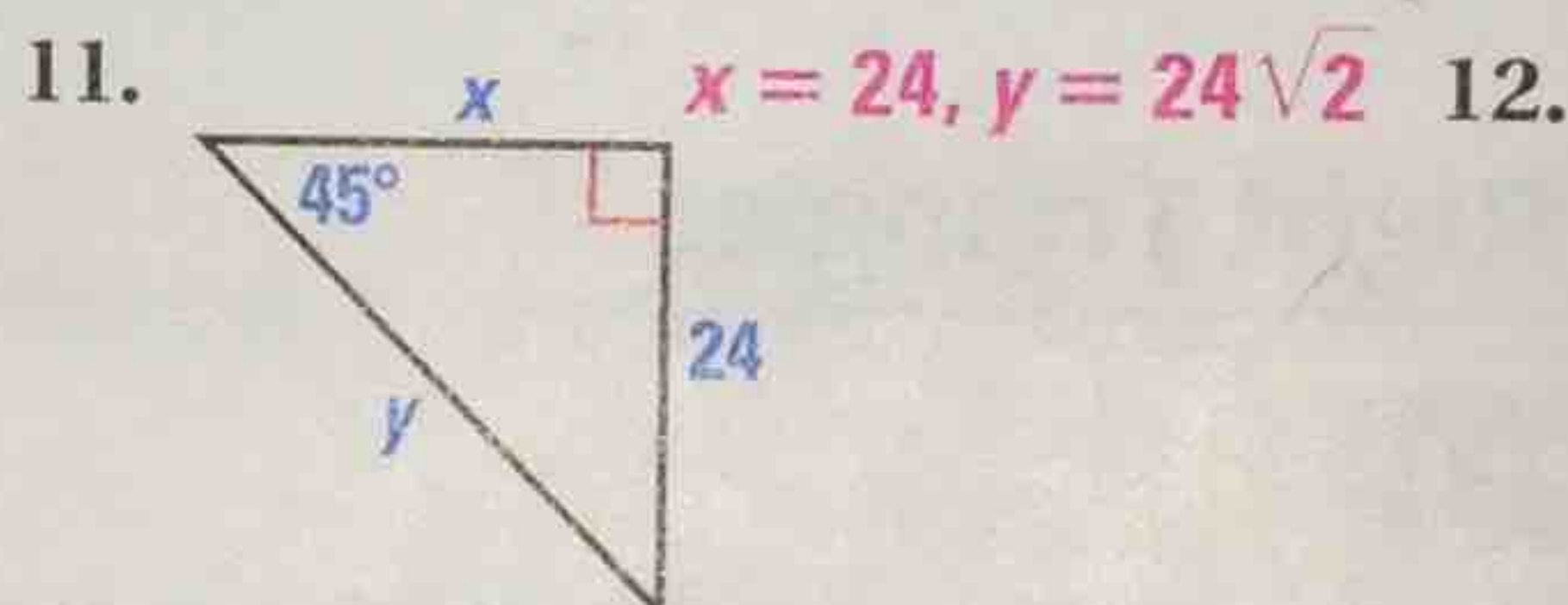
4. $5, 15, 5\sqrt{10}$ **right**

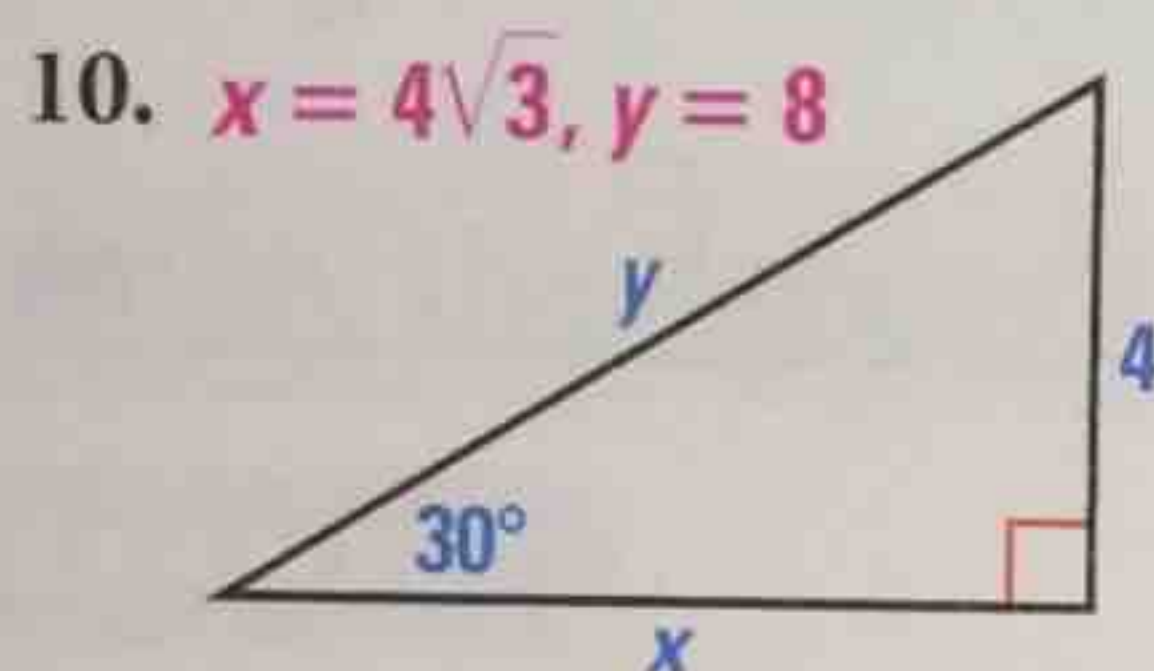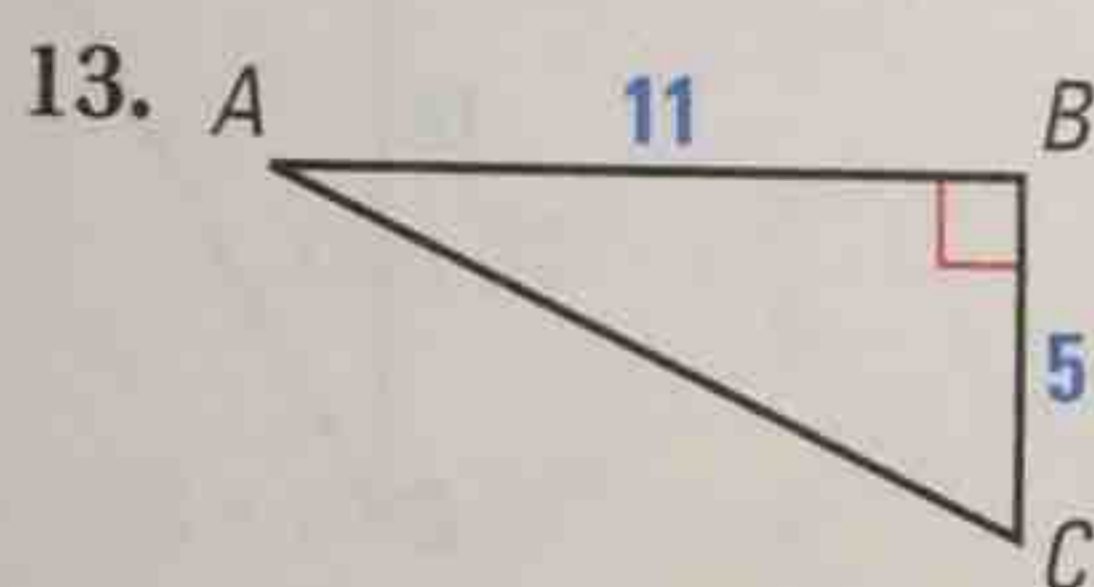5. $4.3, 6.7, 8.2$ **obtuse**

6. $5, 7, 8$ **acute**

Find the value of x. Round decimal answers to the nearest tenth.

7. **10**

x

20   5

8. **9.2**   24

10   x

9. **13.4**

3

12

x

Find the value of each variable. Write your answer in simplest radical form.

10. $x = 4\sqrt{3}, y = 8$

y 4

30°

x

11. x $x = 24, y = 24\sqrt{2}$

45°

24

y

12.

y

x

60° $7\sqrt{3}$

$x = \dfrac{7\sqrt{3}}{2}, y = \dfrac{21}{2}$

Solve the right triangle. Round decimal answers to the nearest tenth.

13. A 11 B

5

C

$A \approx 24.4°, C \approx 65.6°, AC \approx 12.1$

14. E ——— F

5.4   9.2

D

$D \approx 54.1°, F \approx 35.9°, EF \approx 7.4$

15.

H

14

53.2° J

G
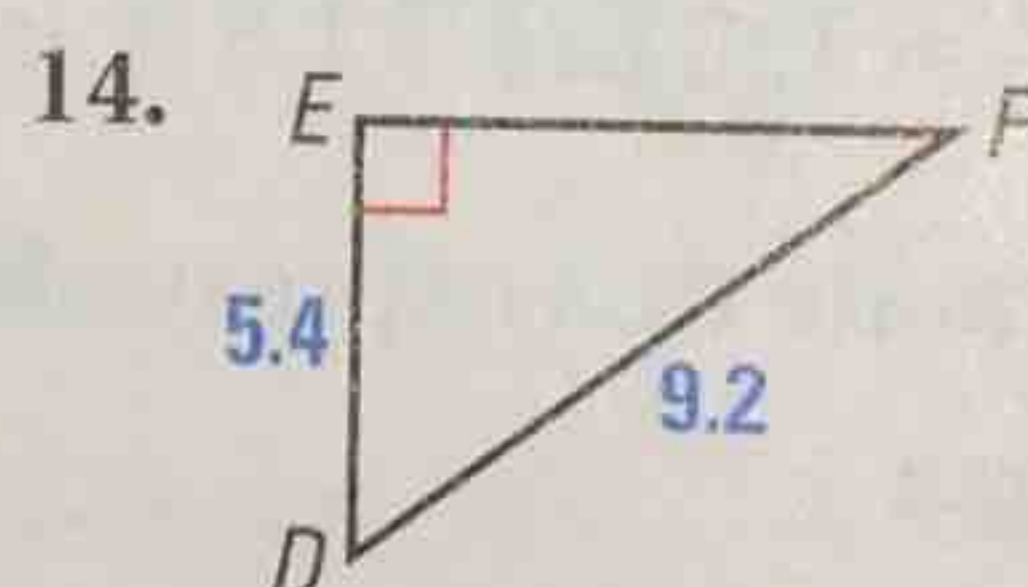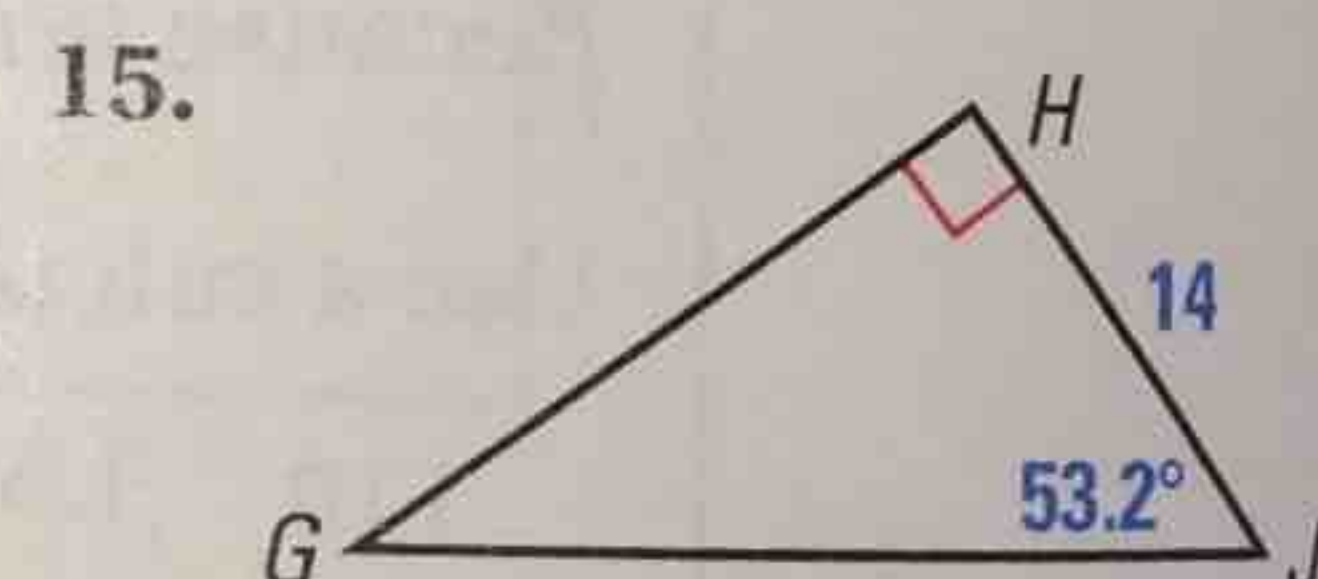
$G = 36.8°, GH \approx 18.7, GJ \approx 23.4$

16. **FLAGPOLE** Julie is 6 feet tall. If she stands 15 feet from the flagpole and holds a cardboard square, the edges of the square line up with the top and bottom of the flagpole. Approximate the height of the flagpole.

about 43.5 ft

17. **HILLS** The length of a hill in your neighborhood is 2000 feet. The height of the hill is 750 feet. What is the angle of elevation of the hill? **about 22°**

2000 ft

750 ft

$a°$