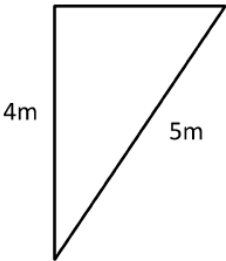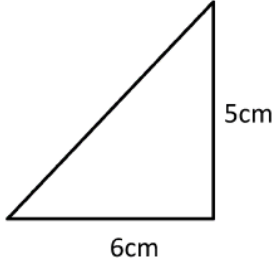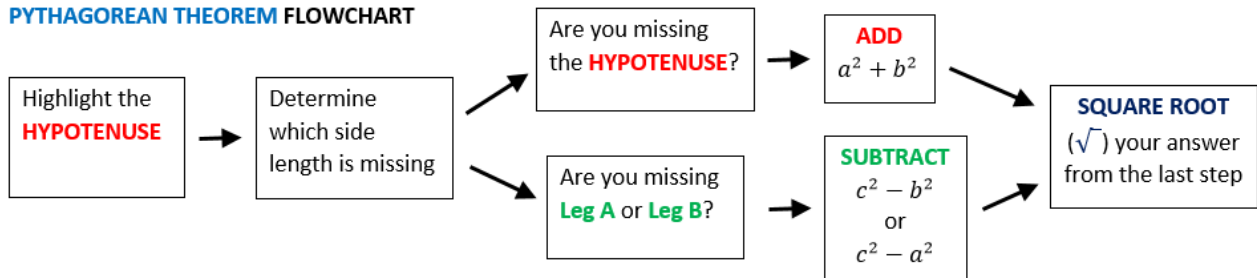| **Learning Goal**: I can identify which side of a right triangle is the **hypotenuse** and I can use Pythagorean Theorem to calculate the length of any missing side. **Meta de Aprendizaje**: *Puedo identificar qué lado de un triángulo derecho es la* **hipotenusa** *y puedo usar el teorema de Pitágoras para calcular la longitud de cualquier lado faltante.*	**Language Goal:** I can discuss with a partner how to calculate the missing side of a right triangle and write an explanation of how to calculate the missing side. **Lenguaje Objetivo**: *Puedo discutir con un compañero cómo calcular la lado faltante de un triángulo rectángulo y escribir una explicación de cómo calcular la lado faltante.*

DIRECTIONS: Answer the following questions about Pythagorean Theorem.
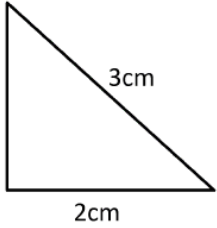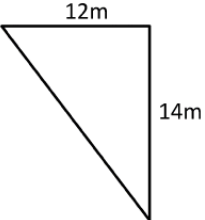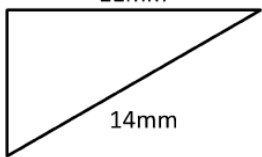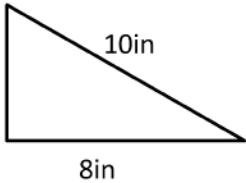
1. **Pythagorean Theorem** is $a^2 + b^2 = c^2$.   **TRUE**   or   **FALSE**
   (*El teorema de Pitágoras es* $a^2 + b^2 = c^2$.)

2. The **hypotenuse** is *always* the longest side of a right triangle.   **TRUE**   or   **FALSE**
   (*La* **hipotenusa** *es* **siempre** *el lado más largo de un triángulo rectángulo.*)

3. The letter "a" represents the **hypotenuse**.   **TRUE**   or   **FALSE**
   (*La letra "a" representa la* **hipotenusa**.)

**DIRECTIONS:** Calculate the length of the missing side. Use the flowchart if necessary.
        (Calcular la longitud del lado faltando. Utilice el diagrama de flujo si es necesario.)
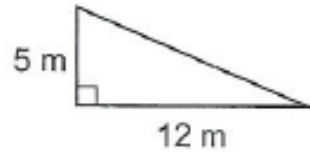
PYTHAGOREAN THEOREM FLOWCHART

Highlight the **HYPOTENUSE** → Determine which side length is missing → Are you missing the **HYPOTENUSE**? → **ADD** $a^2 + b^2$ → **SQUARE ROOT** $(\sqrt{\ })$ your answer from the last step

Are you missing **Leg A** or **Leg B**? → **SUBTRACT** $c^2 - b^2$ or $c^2 - a^2$ → **SQUARE ROOT**

1. Find the missing side length. 4m 5m	2. What is the length of side c? Round to the nearest tenth. 5cm 6cm	3. Find the missing side length. Round to the nearest tenth. 3cm 2cm
4. What is the length of the hypotenuse? Round to the nearest tenth. 12m 14m	5. Find the missing side length. Round to the nearest tenth. 11mm 14mm	6. Find the missing side length. Round to the nearest tenth. 10in 8in
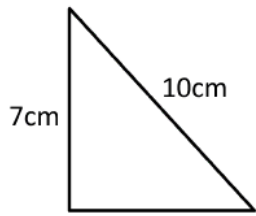
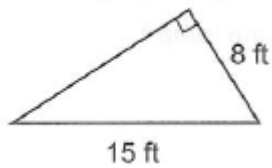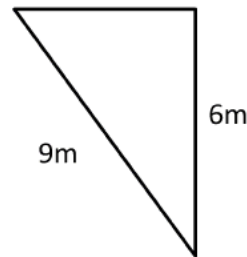| 7. What is the length of the missing side? Round to the nearest whole number.	8. What is the length of side c? Round to the nearest tenth.	9. Find the length of the missing side. Round to the nearest hundredth.
10cm 7cm	5 m 12 m	6in 13in

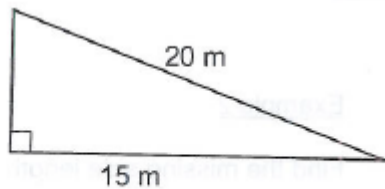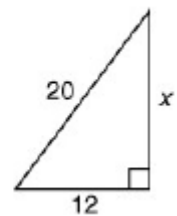| 10. What is the length of the missing side? Round to the nearest whole number.	12. What is the length of the missing side. Round to the nearest tenth.	13. Find the length of the missing side. Roun to the nearest tenth.
8 ft 15 ft	9m 6m	5cm 9cm
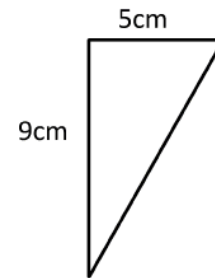
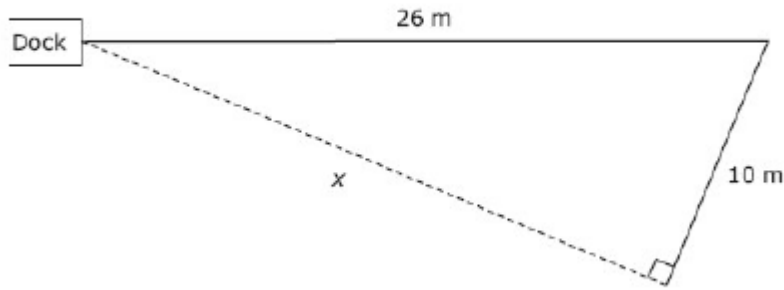| 14. A ramp used in skateboarding competitions is shown below. 20 m 15 m How high is the ramp?	15. What is the value of x? 20 x 12

16. Leland swam from the dock east 26 meters. He turned and swam another 10 meters, as shown in the diagram below.

26 m

Dock

x

10 m
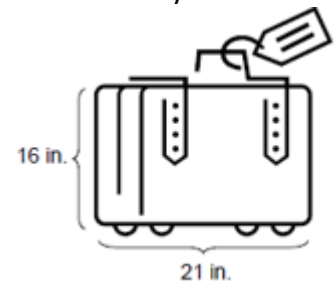
What is the value of x, the distance Leland swam to return to the dock?

17. A television screen is measured by the length of its diagonal.

32 in.

20 in.
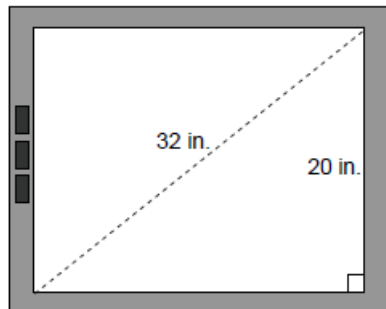
What is the length of the 32-inch television screen? Round your answer to the nearest tenth.
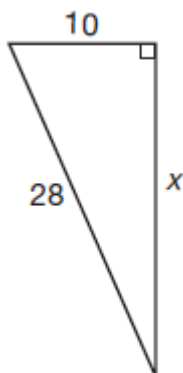
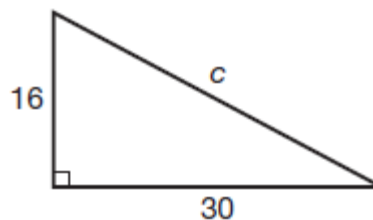18. A suitcase measures 21 inches by 16 inches.

16 in.

21 in.

What is the length of the diagonal of the suitcase to the nearest tenth of an inch?
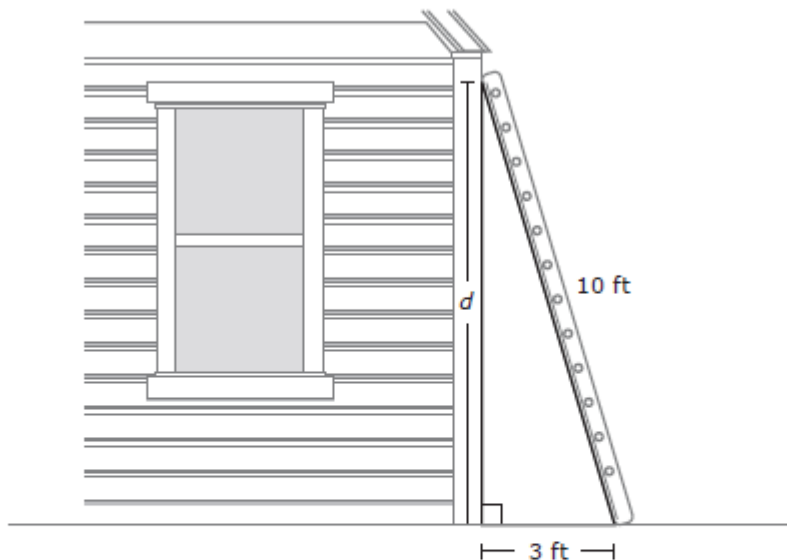
A   5.0 inches

B   37.0 inches

C   26.4 inches

19. Find the missing side length.

10

28

x

20. What is the length of the hypotenuse?

c

16

30

21. Gwendolyn placed a 10-foot ladder against the side of her house so that the base of the ladder was 3 feet from the base of the house, as shown in the diagram below.

10 ft

d

3 ft

Which measurement in feet is closest to d, the distance from the top of the ladder to the ground?

F   10.4 ft

G   7.0 ft

H   6.5 ft

J   9.5 ft

22.   A side view of a desk telephone is shown below.

9.5 cm

x

11 cm
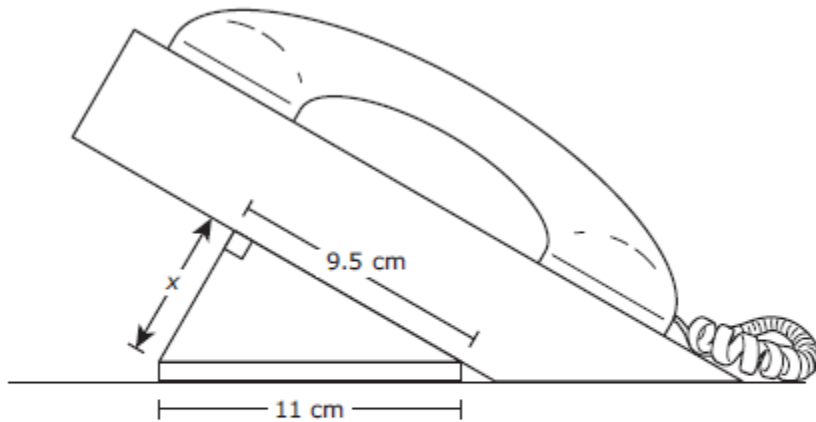
Which of the following is closest to the value of x?

A   2 cm

B   10 cm

C   20 cm

D   6 cm