MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

The two triangles below are similar. Find the length of any missing side.

1)  
\[
\begin{array}{c}
6 \quad 8 \\
3 \quad 4 \\
5 \quad x
\end{array}
\]

A) \(x = 5\) \hspace{1cm} B) \(x = 10\) \hspace{1cm} C) \(x = 15\) \hspace{1cm} D) \(x = 11\)

2)  
\[
\begin{array}{c}
y \quad 28 \\
2.4 \quad x \\
3.6 \quad 5.4
\end{array}
\]

A) \(x = 4.8; y = 3.9\) \hspace{1cm} B) \(x = 4.2; y = 3.6\) \hspace{1cm} C) \(x = 4.2; y = 3.9\) \hspace{1cm} D) \(x = 1.87; y = 3.6\)

Use a proportion to solve the problem.

3) A tree casts a shadow 21 m long. At the same time, the shadow cast by a 63-cm tall statue is 99 cm long. Find the height of the tree.

A) 11.9 m \hspace{1cm} B) 33.0 m \hspace{1cm} C) 13.4 m \hspace{1cm} D) 31.5 m

4) A triangle drawn on a map has sides of lengths 8 cm, 12 cm, and 14 cm. The shortest of the corresponding real-life distances is 116 km. Find the longest of the real-life distances.

A) 203.0 km \hspace{1cm} B) 174.0 km \hspace{1cm} C) 164.0 km \hspace{1cm} D) 213.0 km

5) Find the height of the building. Assume that the height of the person is 5 ft.

\[
\begin{array}{c}
130 \text{ ft} \\
13 \text{ ft} \\
5 \text{ ft}
\end{array}
\]

A) 338 ft \hspace{1cm} B) 26 ft \hspace{1cm} C) 50 ft \hspace{1cm} D) 70 ft

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Find the square root.

6) \(\sqrt{49}\)
7) $\sqrt{256}$

Determine between which two consecutive whole numbers each square root lies.
8) $\sqrt{235}$

Find the missing length to the nearest tenth.
9)

$$\begin{array}{c}
\text{9 mi} \\
\text{12 mi}
\end{array}$$

10)

$$\begin{array}{c}
\text{12 m} \\
\text{20 m}
\end{array}$$

11)

$$\begin{array}{c}
\text{11 in.} \\
\text{14 in.}
\end{array}$$

In a right triangle, find the length of the side not given. Let $c$ represent the length of the hypotenuse. Give an answer to the nearest tenth if necessary.
12) $b = 20$ cm, $c = 25$ cm

13) $a = 1$ ft, $b = 6$ ft

Solve the problem. If necessary, round to the nearest tenth.
14) A painter leans a ladder against one wall of a house. At what height does the ladder touch the wall?

$$\begin{array}{c}
\text{?} \\
\text{29 ft}
\end{array}$$

$$\begin{array}{c}
\text{19 ft}
\end{array}$$