

7.1-7.3 – Review

Find the square root(s).

1) $\sqrt{121} = 11$

2) $-\sqrt{\frac{1}{36}} = -\frac{1}{6}$

3) $\pm\sqrt{\frac{289}{49}} = \pm\frac{17}{7}$

4) $-\sqrt{0.64} = -0.8$

Find the two square roots of the number.

5) 16 $-4, 4$

6) 169 $-13, 13$

Complete the statement with $<$, $>$, or $=$.

7) $\sqrt{64} \text{ ? } 5$
 $8 > 5$

8) $0.6 \text{ ? } \sqrt{0.49}$
 $0.6 < 0.7$

Evaluate the expression. Show all work

9) $2\sqrt{25} + 3$
 $= 2(5) + 3$
 $= 10 + 3$
 $\boxed{13}$

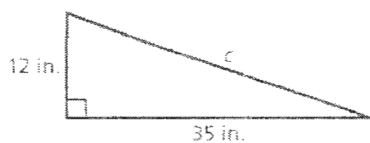
10) $7 - 12\sqrt{\frac{1}{9}}$
 $= 7 - 12(\frac{1}{3})$
 $= 7 - 4$
 $\boxed{3}$

11) $15 - 4\sqrt{36}$
 $= 15 - 4(6)$
 $= 15 - 24$
 $\boxed{-9}$

12) $10(\sqrt{81} - 12)$
 $= 10(9 - 12)$
 $= 10(-3)$
 $\boxed{-30}$

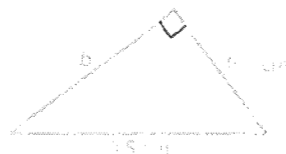
Find the missing length of the triangle. Show all work.

13)



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 12^2 + 35^2 &= c^2 \\ 144 + 1225 &= c^2 \\ 1369 &= c^2 \\ \boxed{37 \text{ in} = c} \end{aligned}$$

14)



$$\begin{aligned} 0.3^2 + b^2 &= 0.5^2 \\ .09 + b^2 &= .25 \\ b^2 &= .16 \\ \boxed{b = .4 \text{ cm}} \end{aligned}$$

Let a and b represent the lengths of the legs of a right triangle, and let c represent the length of the hypotenuse. Find the unknown length. If you cannot find the perfect root, leave the answers in radical form.

15) $a=12$, $b=15$

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 12^2 + 15^2 &= c^2 \\ 144 + 225 &= c^2 \\ 369 &= c^2 \\ \boxed{\sqrt{369} = c} \end{aligned}$$

16) $b=9$, $c=12$

$$\begin{aligned} a^2 + b^2 &= c^2 \\ a^2 + 9^2 &= 12^2 \\ a^2 + 81 &= 144 \\ a^2 &= 63 \\ \boxed{a = \sqrt{63}} \end{aligned}$$

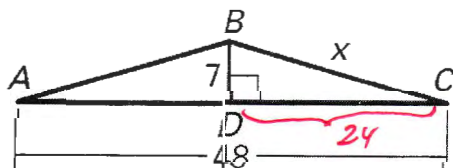
17) $a=14$, $c=50$

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 14^2 + b^2 &= 50^2 \\ 196 + b^2 &= 2500 \\ b^2 &= 2304 \\ \boxed{b = 48} \end{aligned}$$

18) $b=45$, $c=51$

$$\begin{aligned} a^2 + b^2 &= c^2 \\ a^2 + 45^2 &= 51^2 \\ a^2 + 2025 &= 2601 \\ a^2 &= 576 \\ \boxed{a = 24} \end{aligned}$$

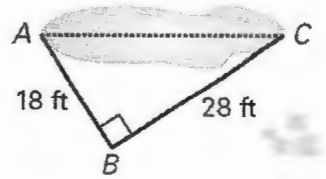
19) Given that D is the midpoint of segment AC , find the unknown length. Show all work.



$$\begin{aligned} a^2 + b^2 &= c^2 \\ 7^2 + 24^2 &= x^2 \\ 49 + 576 &= x^2 \\ 625 &= x^2 \\ \boxed{25 = x} \end{aligned}$$

20)

Indirect Measurement You are trying to determine the distance across a pond. You put posts into the ground at A , B , and C so that angle B is a right angle. You measure and find that the length of AB is 18 feet and the length of CB is 28 feet. How wide is the pond from A to C ? Round your answer to the nearest foot.



$$a^2 + b^2 = c^2$$

$$18^2 + 28^2 = c^2$$

$$324 + 784 = c^2$$

$$1108 = c^2$$

$$c \approx 33.3 \text{ ft}$$