

Chapter 7 Practice Test Answers text p. 328 #1-28 all

1.) $-\sqrt{1600} = -40$

2.) $\sqrt{\frac{25}{49}} = \frac{\sqrt{25}}{\sqrt{49}} = \frac{5}{7}$

3.) $\pm\sqrt{\frac{100}{9}} = \pm\frac{\sqrt{100}}{\sqrt{9}}$
 $= \frac{10}{3}$ and $-\frac{10}{3}$

4.) $\sqrt[3]{-27} = -3$

5.) $\sqrt[3]{\frac{8}{125}} = \frac{\sqrt[3]{8}}{\sqrt[3]{125}} = \frac{2}{5}$

6.) $\sqrt[3]{\frac{-729}{64}} = -\frac{9}{4}$
 or $-2\frac{1}{4}$ or -2.25

7.) $12 + 8\sqrt{16}$
 $12 + 8 \cdot 4$
 $12 + 32$
 $= 44$

8.) $\frac{1}{2} + \sqrt{\frac{72}{2}}$
 $= \frac{1}{2} + \sqrt{36}$
 $= \frac{1}{2} + 6$
 $= 6\frac{1}{2}$

9.) $(\sqrt[3]{-125})^3 + 75$
 $-125 + 75$
 $= -50$

10.) $50 \cdot \sqrt[3]{\frac{512}{1000}} + 14$
 $50 \cdot \frac{8}{10} + 14$
 $40 + 14$
 $= 54$

11.) $a^2 + 24^2 = 26^2$
 $a^2 + 576 = 676$
 $\quad -576 \quad -576$
 $a^2 = 100$
 $a = 10 \text{ in}$

12.) irrational

13.) rational

14.) $\sqrt{58}$
 (a) ≈ 8
 (b) ≈ 7.6

15.) $\sqrt{83}$
 (a) ≈ 9
 (b) ≈ 9.1

$$16.) -0.\overline{3} = \left(-\frac{3}{9}\right)$$

$$17.) 1.\overline{24} = \left| \frac{24 \div 3}{99 \div 3} \right| = \left| \frac{8}{33} \right|$$

$$18.) 39^2 + 80^2 \stackrel{?}{=} 89^2$$

$$\checkmark$$
$$7921 = 7921 \checkmark$$

Yes, it's a right triangle.

$$19.) d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$
$$= \sqrt{(-2 - 6)^2 + (3 - 9)^2}$$
$$= \sqrt{(-8)^2 + (-6)^2}$$
$$= \sqrt{64 + 36}$$
$$= \sqrt{100}$$

$$= 10$$

$$20.) d = \sqrt{(0 - 4)^2 + (-5 - 1)^2}$$
$$= \sqrt{(-4)^2 + (-6)^2}$$
$$= \sqrt{16 + 36}$$
$$= \sqrt{52}$$

$$21.) x^2 + 11^2 = 61^2$$

$$x^2 + 121 = 3721$$
$$-121 \quad -121$$

$$\sqrt{x^2} = \sqrt{3600}$$

$$x = 60 \text{ ft}$$

$$\text{altitude} = 60 + 6 = 66 \text{ ft}$$