SM2 2.3: Solving Using Radicals

Solve each equation.

1) $x^2 = 25$ $\quad\quad x = \pm 5$ 2) $a^2 = 81$ $\quad\quad a = \pm 9$

3) $m^3 = 27$ $\quad\quad m = 3$ 4) $y^3 = 64$ $\quad\quad y = 4$

5) $x^2 = 72$ $\quad\quad x = \pm 6\sqrt{2}$ 6) $2h^2 = 90$ $\quad\quad h = \pm 3\sqrt{5}$

7) $x^3 - 1 = 7$ $\quad\quad x = 2$ 8) $3p^2 + 10 = 442$ $\quad\quad p = \pm 12$

9) $(x - 2)^2 = 9$ $\quad\quad x = 5, x = -1$ 10) $(d + 5)^3 - 2 = 123$ $\quad\quad d = 0$

Solve each problem.

11) $\quad 5\sqrt{51} \text{ or } 35.707 \, ft$ 12) $\quad 5\sqrt{3} \text{ or } 8.66 \, m$

13) $\quad 1.36 \, mi$ 14) $\quad 10\sqrt{29} \text{ or } 53.852 \, m$

15) $\quad 275 \, yds$ 16) $\quad 53.333 \, yds$

17) $\quad d = 2\sqrt{10} \text{ or } 6.325 \, m$
$\quad\quad C = 2\pi\sqrt{10} \text{ or } 19.87 \, m$ 18) $\quad 2 \, min$

19) $\quad \sqrt{5} \text{ or } 2.236 \, sec$ 20) $\quad 19.99 \, in$

21) Only Paul got the answer correct, as it makes no sense contextually to talk about what is happening at $-3.12 \, s$ or $3.12 \, s$ before dropping the item.

22) If there is no context, we want both mathematically correct answers using the plus and minus. If there is a context (i.e. story problem), we want one or both depending on the scenario.