Solve each equation.

1. $\sqrt{x-4}+6=10$

ANSWER:
20

3. $8-\sqrt{x+12}=3$

ANSWER:
13

5. $\sqrt[3]{x-2}=3$

ANSWER:
29

7. $(4y)^{\frac{1}{3}}+3=5$

ANSWER:
2

13. **CCSS REASONING** The time T in seconds that it takes a pendulum to make a complete swing back and forth is given by the formula $T=2\pi\sqrt{\dfrac{L}{g}}$, where L is the length of the pendulum in feet and g is the acceleration due to gravity, 32 feet per second squared.

a. In Tokyo, Japan, a huge pendulum in the Shinjuku building measures 73 feet 9.75 inches. How long does it take for the pendulum to make a complete swing?

b. A clockmaker wants to build a pendulum that takes 20 seconds to swing back and forth. How long should the pendulum be?

ANSWER:
a. about 9.5 seconds

b. about 324 ft

Solve each equation. Confirm by using a graphing calculator.

29. $6+\sqrt{4x+8}=9$

ANSWER:
$\dfrac{1}{4}$

31. $\sqrt{x-4}=\sqrt{2x-13}$

ANSWER:
9

Solve each equation.

43. $3(x+5)^{\frac{1}{3}} - 6 = 0$

ANSWER:
3

47. $\frac{1}{4}(32b)^{\frac{1}{3}} = 1$

ANSWER:
2

48. **MULTIPLE CHOICE** Solve $\sqrt[4]{y+2} + 9 = 14$.

A 23

B 53

C 123

D 623

ANSWER:
D