

**EXERCISE A**

Solve each equation.

1)  $\sqrt{4x+1} = 3$

2)  $4 - (7 - y)^{\frac{1}{2}} = 0$

3)  $1 + \sqrt{x+2} = 0$

4)  $\frac{1}{6}(12a)^{\frac{1}{3}} = 1$

5)  $\sqrt[3]{x-4} = 3$

6)  $(3y)^{\frac{1}{3}} + 2 = 5$

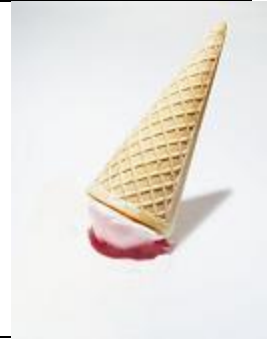
7)  $\sqrt{3y-1} = \sqrt{y-11}$

8)  $\sqrt[3]{5n+2} = \sqrt[3]{n-12}$

9)  $\sqrt[4]{m-7} + 18 = 17$

10)  $1 + \sqrt[3]{3j-7} = 3$

- 11) The surface area of a cone can be found by using the formula:  $S = \pi r \sqrt{r^2 + h^2}$  where  $r$  is the radius of the base and  $h$  is the height of the cone. Find the height of the cone if  $S = 225\text{cm}^2$  and  $r = 5\text{cm}$ . Use 3.14 for pi, and round your answer to nearest hundredths.

**EXERCISE B**

Solve each equation.

12)  $\sqrt{x} = 4$

13)  $\sqrt{y} - 7 = 0$

14)  $a^{\frac{1}{2}} + 9 = 0$

15)  $2 + 4z^{\frac{1}{2}} = 0$

16)  $7 + \sqrt{4x+8} = 9$

17)  $5 + \sqrt{4y-5} = 12$

18)  $\sqrt{x-5} = \sqrt{2x-4}$

19)  $\sqrt{2t-7} = \sqrt{t+2}$

20)  $\sqrt[3]{c-1} = 2$

21)  $\sqrt[3]{5m+2} = 3$

$$22) \quad (6m - 5)^{\frac{1}{3}} + 3 = -2$$

$$23) \quad (5x + 7)^{\frac{1}{5}} + 3 = 5$$

$$24) \quad (3x - 2)^{\frac{1}{4}} + 6 = 5$$

## EXERCISE C

Solve each equation.

$$25) \quad \sqrt{x-6} - \sqrt{x} = 3$$

$$26) \quad \sqrt{y+21} - 1 = \sqrt{y+12}$$

$$27) \quad \sqrt{b+1} = \sqrt{b+6} - 1$$

$$28) \quad \sqrt{4z+1} = 3 + \sqrt{4z-2}$$



29) When an object is dropped from the top of a 50-foot tall building, the object will be  $h$  feet above the ground after  $t$  seconds, where.....  $\frac{1}{4}\sqrt{50-h} = t$   
How far above the ground will the object be after one second?

### ANSWERS

- |                |                        |                |                 |
|----------------|------------------------|----------------|-----------------|
| 1) $x = 2$     | 9) no solution         | 17) $y = 27/2$ | 25) no solution |
| 3) no solution | 11) $\approx 13.42$ cm | 19) $t = 9$    | 27) $b = 3$     |
| 5) $x = 31$    | 13) $y = 49$           | 21) $m = 5$    | 29) 34 ft.      |
| 7) no solution | 15) no solution        | 23) $x = 5$    |                 |