

## SM3H 5.1 Solve Square Root Equations

Solve each equation for  $x$ .

1)  $\sqrt{x} = 5$

$x = 25$

2)  $\sqrt{x} = 9$

$x = 81$

3)  $\sqrt{x} = -3$

$x = \emptyset$

4)  $\sqrt{3x} = 6$

$x = 12$

5)  $\sqrt{4x} = 10$

$x = 25$

6)  $\sqrt{2x} = -6$

$x = \emptyset$

7)  $2\sqrt{x} = 1$

$x = \frac{1}{4}$

8)  $2\sqrt{5x} = 20$

$x = 20$

9)  $\sqrt{2x-1} = 7$

$x = 25$

10)  $\sqrt{3x+7} - 7 = 0$

$x = 14$

11)  $\sqrt{x^2+16} = x+2$

$x = 3$

12)  $\sqrt{x^2+5x+10} = 2$

$x = \{-3, -2\}$

13)  $\sqrt{4x-3} - \sqrt{x+6} = 0$

$x = 3$

14)  $2x - \sqrt{16x-12} = 0$

$x = \{1, 3\}$

15)  $2\sqrt{x+6} - \sqrt{-8x} = 0$

$x = -2$

16)  $\sqrt{x+19} = \sqrt{x+10} + 1$

$x = 6$

17)  $\sqrt{7x+1} = \sqrt{12x+4} - 2$

$x = 5$

18)  $\sqrt{5x+6} + 3 = \sqrt{3x+3} + 4$

$x = \{-1, 2\}$

19)  $x - 3 = \sqrt{10x - 54}$

$x = \{7, 9\}$

20)  $x + 1 = \sqrt{7x + 15}$

$x = 7$