

040 \$6.5 #s 1, 3, 5, 9, 11, 19, 31, 37, 39

$$\textcircled{1} \sqrt{2x+3} = 3$$

$$(\sqrt{2x+3})^2 = 3^2$$

$$2x+3 = 9$$

$$2x = 6$$

$$\boxed{x=3}$$

$$\textcircled{3} \sqrt{4x+1} = -5$$

Nevalah!

$$\textcircled{9} \sqrt{2x-3} - 2 = 4$$

$$\sqrt{2x-3} = 6$$

$$(\sqrt{2x-3})^2 = 6^2$$

$$2x-3 = 36$$

$$2x = 39$$

$$\boxed{x = \frac{39}{2}}$$

$$\textcircled{5} \sqrt{2y-1} = 3$$

$$(\sqrt{2y-1})^2 = 3^2$$

$$2y-1 = 9$$

$$2y = 10$$

$$\boxed{y=5}$$

$$\textcircled{11} \sqrt{4a+1} + 3 = 2$$

$$\sqrt{4a+1} = -1$$

Nevalah!
+

$$\textcircled{19} \sqrt{y-3} = y-3$$

$$(\sqrt{y-3})^2 = (y-3)^2$$

$$y-3 = y^2 - 6y + 9$$

$$y^2 - 7y + 12 = 0$$

$$(y-4)(y-3) = 0$$

$$\boxed{y=3 \text{ or } y=4}$$

099 § 6.5 #s 31, 37, 39

$$(31) t + 5 = \sqrt{2t + 9}$$

$$(t + 5)^2 = (\sqrt{2t + 9})^2$$

$$t^2 + 10t + 25 = 2t + 9$$

$$t^2 + 8t + 16 = 0$$

$$(t + 2)(t + 8) = 0$$

$$\boxed{t = -2} \text{ OR } \cancel{t = -8} \notin \mathcal{D}$$

DOMAINS

NEED

$$2t + 9 \geq 0$$

$$2t \geq -9$$

$$t \geq -\frac{9}{2} = -4.5$$

$$\mathcal{D} = \left\{ t \mid t \geq -\frac{9}{2} \right\}$$

$$(37) \sqrt{x-8} = \sqrt{x} - 2$$

$$(\sqrt{x-8})^2 = (\sqrt{x} - 2)^2$$

$$x - 8 = x^2 - 2(\sqrt{x})(2) + 4$$

$$\cancel{x} - 8 = \cancel{x} - 4\sqrt{x} + 4$$

$$4\sqrt{x} - 12 = 0$$

$$4\sqrt{x} = 12$$

$$\sqrt{x} = 3$$

$$(\sqrt{x})^2 = 3^2$$

$$\boxed{x = 9}$$

099 § 6.5 #39

$$\textcircled{39} \sqrt{x+1} = \sqrt{x} + 1$$

$$(\sqrt{x+1})^2 = (\sqrt{x} + 1)^2$$

$$x+1 = x + 2\sqrt{x} + 1$$

$$2\sqrt{x} + 1 = 1$$

$$2\sqrt{x} = 0$$

$$\sqrt{x} = 0$$

$$\boxed{x = 0}$$