

# Boss-Secretary

Solve each equation. Be sure to check for extraneous solutions!

$$(\sqrt{2x-5})^2 = (-3)^2$$

$$2x-5 = 9$$

$$+5 \quad +5$$

$$2x = 14$$

$$x = 7$$

$$\sqrt{2(7)-5} \stackrel{?}{=} -3$$

$$\sqrt{14-5} = -3$$

$$\sqrt{9} = -3 \quad \text{??}$$

$$3 = -3$$

No Solution

2.

$$-3\sqrt[3]{2x+1} - 4 = 11$$

$$+4 \quad +4$$

$$\frac{-3\sqrt[3]{2x+1}}{-3} = \frac{15}{-3}$$

$$\left(\sqrt[3]{2x+1}\right)^3 = (-5)^3$$

$$2x+1 = -125$$

$$2x = -126$$

$$x = -63$$

$$\left(\sqrt[4]{3x-1}\right)^4 = \left(\sqrt[4]{x+9}\right)^4$$

$$3x-1 = x+9$$

$$-x \quad -x$$

$$2x-1 = 9$$

$$+1 \quad +1$$

$$\frac{2x}{2} = \frac{10}{2}$$

$$x = 5$$

$$\sqrt[4]{3x-1} = \sqrt[4]{x+9}$$

$$\sqrt[4]{14} = \sqrt[4]{14}$$

2.

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

$$2x+8 = x^2$$

$$x^2 - 2x + 8$$

$$(x-4)(x+2)$$

$$\textcircled{x=4} \quad x=-2$$