

1.20.16

Solve the following radical equation. Check your solutions.

$$-n + \sqrt{6n + 19} = 2$$

$$\begin{array}{c} +n \qquad \qquad +n \\ \sqrt{6n+19} + (2+n) \end{array}$$

$$6n + 19 = (2+n)(2+n)$$

$$\begin{array}{r} 6n + 19 = n^2 + 4n + 4 \\ -6n - 19 \quad -6n - 19 \end{array}$$

$$0 = n^2 - 2n - 15$$

$$\begin{array}{c} \text{a.c} \\ -15 \quad n \\ -5 \quad 3 \end{array} \begin{array}{c} n - 5 \\ \begin{array}{|c|c|} \hline n^2 & -5n \\ \hline 3n & -15 \\ \hline \end{array} \end{array}$$

$$0 = (n-5)(n+3)$$

$$\boxed{n=5} \quad n=-3 \quad \text{X}$$

$$\begin{array}{c} 2 \quad n \\ \begin{array}{|c|c|} \hline 4 & 2n \\ \hline 2n & n^2 \\ \hline \end{array} \end{array}$$

$$-(5) + \sqrt{6(5) + 19} = 2$$

$$-5 + \sqrt{49} = 2$$

$$-5 + 7 = 2 \quad \checkmark$$

$$-(-3) + \sqrt{6(-3) + 19} = 2$$

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

$$3 + 1 = 2 \quad \text{X}$$

$$4 \neq 2$$