

Solving Radical Eq. pg. 5

1) $(9)^2 = (\sqrt{b-9})^2$
 $81 = b-9$
 $90 = b$
 $\checkmark 9 = \sqrt{90-9}$

1) isolate the radical
 2) use the inverse to cancel the radical
 3) solve for x
 4) check

Oct 23-7:41 AM

3) $(\sqrt[4]{4p})^4 = (2)^4$ $\checkmark \sqrt[4]{4 \cdot 4} = 2$
 $\frac{4p}{4} = \frac{16}{4}$
 $p = 4$

Oct 23-8:36 AM

9) $-1 = \sqrt[3]{5r+1} - 7$
 $(6)^3 = (\sqrt[3]{5r+1})^3$ $\checkmark -1 = \sqrt[3]{5(43)+1} - 7$
 $216 = 5r+1$
 $\frac{215}{5} = \frac{5r}{5}$ $r = 43$

Oct 23-8:38 AM

Ex) $4 + \sqrt{-3m+10} = m-4$
 $(\sqrt{-3m+10})^2 = (m-4)^2$
 $-3m+10 = (m-4)(m-4)$
 $-3m+10 = m^2 - 8m + 16$
 $0 = m^2 - 5m + 6$
 $0 = (m-3)(m-2)$
 $m \neq 3, m = 2$
 $\checkmark 4 + \sqrt{-3(3)+10} = 3 \quad \times$
 $4 + \sqrt{-3(2)+10} = 2 \quad \times$

Oct 23-8:42 AM

13) $(\sqrt[3]{2-k})^3 = (\sqrt[3]{3k+6})^3$
 $\sqrt[3]{2-1} = \sqrt[3]{3(-1)+6}$
 $\sqrt[3]{1} = \sqrt[3]{3} \quad \checkmark$

Oct 23-8:49 AM

15) $(\sqrt{6-x})^2 = (\sqrt{2x+6})^2$
 $6-x = 2x+6$
 $0 = 3x$
 $0 = x$
 $\checkmark \sqrt{6-0} = \sqrt{2(0)+6}$
 $\sqrt{6} = \sqrt{6}$

Oct 23-8:52 AM

$$\begin{aligned}
 21) (\sqrt{4k-4})^2 &= (k-1)^2 \\
 4k-4 &= (k-1)(k-1) \\
 4k-4 &= k^2-2k+1 \\
 \frac{-4k}{-4k} \frac{-4}{+4} &= k^2-2k+1 \\
 0 &= k^2-6k+5 \\
 0 &= (k-5)(k-1) \\
 k &= 5, 1 \\
 \hline
 \sqrt{4(5)}-4 &= 5-1 \quad \sqrt{4(1)}-4 = 1-1 \\
 4 &= 4 \qquad \qquad \qquad 0 &= 0
 \end{aligned}$$

Oct 23-9:07 AM

$$\begin{aligned}
 23) -1 &= \sqrt{v+5} \quad -\sqrt{v+5} \\
 +\sqrt{v+5} & \quad +\sqrt{v+5} \\
 (v-1)^2 &= (\sqrt{v+5})^2 \\
 (v-1)(v-1) & \\
 v^2-2v+1 &= -\sqrt{v+5} + 5 \\
 v^2-3v-4 &= 0 \\
 (v-4)(v+1) &= 0 \\
 v &= 4 \quad \rightarrow \times \\
 -1 &= \sqrt{4+5} \quad -4 \quad -1 = \sqrt{-1+5} + 1 \\
 -1 &= 3-4 \quad \quad \quad -1 = 2+1
 \end{aligned}$$

Oct 23-9:09 AM