$$
\begin{array}{|cc}
\hline \begin{array}{l}
\text { Warm-Up } \\
\frac{2}{3} x-9=-11 \\
-9
\end{array} & \frac{5}{9} \cdot \frac{1}{5}\left(\frac{2}{3} x-3\right)=\frac{4}{5} \cdot \frac{5}{1} \\
\frac{3}{2} \cdot \frac{2}{3} x=-\frac{2}{1} \cdot \frac{3}{2} & \frac{2}{3} x \cdot 3=4 \\
x=-3 & +3+3 \\
\text { Check: } \frac{2}{3} x-9=-11 & \frac{3}{2} \cdot \frac{2}{3} x=\frac{7}{1} \cdot \frac{3}{2} \\
\frac{2}{3} \cdot \frac{-3}{1}-9=-11 & \text { ck: } x=\frac{21}{2} \\
-\frac{6}{2}-9=-11 & \left.\frac{1}{3} x-3\right)=\frac{4}{5} \\
-2-9=-11 & \frac{1}{5}\left(\frac{2}{5}\left(\frac{2}{2}\right)-3\right)=\frac{4}{5} \\
-11=-11 & \frac{1}{5}(7-3)=\frac{4}{5} \\
\frac{1}{5}(4)=\frac{4}{5} \\
\frac{4}{5}=\frac{4}{5}
\end{array}
$$

November 1, 2019

Solving square root and cube root equations

$$
\sqrt{64}=8
$$

$$
\sqrt{36}=6
$$

$$
\begin{aligned}
V-36= & \text { No Solus } \\
& \text { None }
\end{aligned}
$$

$$
\begin{gathered}
\sqrt{\mathrm{x}^{2}}=\sqrt{25} \\
x=5
\end{gathered}
$$

$$
\begin{aligned}
\sqrt{x^{2}} & =\sqrt{4} \\
x & =2
\end{aligned}
$$

$$
\begin{aligned}
\sqrt{x^{2}} & =\sqrt{-81} \\
x & =\text { none }
\end{aligned}
$$

$$
\begin{gathered}
4 x^{2}+6=54 \\
-6 \\
-6 \\
\frac{4 x^{2}}{4}=\frac{48}{4} \\
\sqrt{x^{2}}=\sqrt{12} \\
x \approx 3.45
\end{gathered}
$$

$$
\begin{gathered}
2 x^{2}-4=28 \\
+4=4 \\
\frac{2 x^{2}}{2}=\frac{32}{2} \\
\sqrt{x^{2}}=\sqrt{16} \\
x=4
\end{gathered}
$$

$$
\begin{array}{ll}
\sqrt[3]{2} 27=3 & 4: 4 \cdot 4 \cdot 4=64 \\
& 5: 5 \cdot 5 \cdot 5: 125 \\
1: 1 \cdot 1 \cdot 1=1 & 6: 6 \cdot 6 \cdot 6=216 \\
2: 2 \cdot 2 \cdot 2: 8 & 7: 7 \cdot 7 \cdot 7=343 \quad 10: 10 \cdot 10 \cdot 10= \\
3: 3 \cdot 3 \cdot 3=27 & 8: 8 \cdot 8 \cdot 8=512 \quad 1000
\end{array}
$$

$$
\begin{gathered}
\sqrt[3]{x^{3}}=\sqrt[3]{8} \\
x=2
\end{gathered}
$$



You try!

$$
\begin{gathered}
x^{2}-9=72 \\
+9+9 \\
\sqrt{x^{2}}=\sqrt{81} \\
x=9 \\
\\
\sqrt[3]{x^{3}}=\sqrt[3]{64} \\
x=4
\end{gathered}
$$

$$
\begin{aligned}
& \frac{-2 x^{2}}{-2}=\frac{-128}{-2} \\
& \sqrt{x^{2}}=\sqrt{64} \\
& x=8 \\
& \frac{2 x^{3}}{2}=\frac{1,458}{2} \\
& \sqrt[3]{x^{3}}=\sqrt[3]{729} \\
& x=9
\end{aligned}
$$

