6.1 - I will simplify perfect roots

$$
\begin{aligned}
& \sqrt{9}=\sqrt{3^{2}}=3 \\
& 3 \text { 3 } \\
& -\sqrt{49}=-\sqrt{7^{2}}=-7 \\
& \sqrt{77} \\
& \pm \sqrt{100}= \pm 10 \\
& \sqrt{-81}=\sqrt{-1.9^{2}}=9 i \\
& -\hat{8} \\
& \frac{8}{\hat{8}} \\
& 99
\end{aligned}
$$

$$
\begin{aligned}
& \sqrt{x^{4} y^{8}}=\sqrt{\left(x^{2}\right)^{2}\left(y^{4}\right)^{2}}=x^{2} y^{4} \\
& x^{2} x^{2} y^{4} y^{4} \\
& \sqrt{16 x^{6} y^{24}}=4 x^{3} y^{12} \\
& \sqrt{121 x^{2} y^{10} z^{12}}=11 x y^{5} z^{6}
\end{aligned}
$$

$$
\begin{aligned}
& \sqrt[3]{x^{9} y^{15}}=x^{3} y^{5} \\
& \sqrt[4]{x^{8} y^{20}}=x^{2} y^{5} \\
& \sqrt[7]{x^{14} y^{28} z^{49}}=x^{2} y^{4} z^{7}
\end{aligned}
$$

$$
\begin{aligned}
& \sqrt[3]{64}=\sqrt[3]{4^{3}}=4 \\
& \frac{8}{8_{4}^{8} \hat{8}_{4}^{4}} \\
& \begin{array}{l}
\sqrt[4]{8 \mid x^{8} y^{16}}=\sqrt[4]{3^{4} x^{8} y^{16}}=3 x^{2} y^{4} \\
\begin{array}{l}
9 \\
3 \lambda^{4} 3
\end{array}
\end{array} \\
& \sqrt[3]{64 x^{12} y^{27}}=\sqrt[3]{4^{3} x^{12} y^{27}}=4 x^{4} y^{9}
\end{aligned}
$$

$$
\begin{aligned}
& -\sqrt[4]{\frac{16}{81}}=-\sqrt[4]{\frac{2^{4}}{3^{4}}}=-\frac{2}{3} \\
& \sqrt[3]{.027}=\sqrt[3]{\frac{27}{1000}}=\sqrt[3]{\frac{3^{3}}{10^{3}}}=\frac{3}{10} \\
& \sqrt[3]{-64}=\sqrt[3]{-4^{3}}=-4 \\
& -4-4-4
\end{aligned}
$$

$$
\begin{aligned}
& \sqrt[4]{-16}=\sqrt[4]{-102^{4}}=2 i \\
& \widehat{-1}_{4}^{4} \\
& \hat{2}_{2} z_{2} \\
& \sqrt[5]{-1}=\sqrt[5]{-1^{5}}=-1 \\
& \sqrt[6]{-1}=i
\end{aligned}
$$

$$
\begin{aligned}
& \sqrt[3]{-27 x^{9} y^{12}}=\sqrt[3]{-3^{3} x^{9} y^{12}}=-3 x^{3} y^{4} \\
& \sqrt[3]{\left(3 x^{2} y^{5}\right)^{9}}=\left(3 x^{2} y^{5}\right)^{3}=27 x^{6} y^{15} \\
& \sqrt[4]{(x-5)^{4}}=x-5 \\
& -\sqrt{(2 x-7)^{7}}=-7(2 x-7)=-2 x+7
\end{aligned}
$$

$$
\begin{gathered}
2 \sqrt[2]{x^{2}-10 x+25} \\
\sqrt[2]{(x-5)^{2}} \\
=x-5
\end{gathered}
$$

$$
\frac{\text { mult } 25}{-5: 5} \frac{\text { add }-10}{-5+-5}
$$

$$
\frac{x^{2}-5 x-5 x+25}{x(x-5)-5(x-5)}
$$

$$
(x-5)(x-5)
$$

$$
(x-5)^{2}
$$

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