Math 20-2: Radical Tutorial

1. Convert to a mixed radical in simplest form.

   a) $\sqrt{50x^5}$

   b) $\sqrt[3]{40}$

2. Convert to an entire radical.

   a) $3\sqrt{5}$

   b) $5\sqrt[3]{3}$

3. Add, subtract, multiply and simplify radical expressions.

   a) $\sqrt{54}+\sqrt{24}-\sqrt{96}$

   b) $3\sqrt{12}+2\sqrt{45}-5\sqrt{20}$

c) $2\sqrt{3}(2\sqrt{6}-4\sqrt{15})$

d) $\left(5\sqrt{6}+\sqrt{3}\right)^2$

4. Rationalize the denominator.

a) $\frac{8\sqrt{x^5}}{2\sqrt{x}}$

b) $\frac{\sqrt{72}}{4\sqrt{8}}$

c) $\frac{3\sqrt{5}-7\sqrt{2}}{\sqrt{10}}$

5. Solve radical equations.

a) $\sqrt{x+2}=5$

b) $4\left(\sqrt{5x-2}\right)=104$