Divide Radicals

Review: $(x+5)(x-5)$ $(\sqrt{x}+5)(\sqrt{x}-5)$ $(\sqrt{3}+\sqrt{5})(\sqrt{3}-\sqrt{5})$

The "*conjugate*" of $\sqrt{x}-5$ is $\sqrt{x}+5$ The "*conjugate*" of $\sqrt{3}+\sqrt{5}$ is $\sqrt{3}-\sqrt{5}$

As you can see, the conjugate is found by changing the **middle** sign.
When you multiply conjugates, you just need to square each term and then subtract.
We use the conjugate to rationalize the binomial denominators.

Rationalize the denominator of the following.

1. $\dfrac{1}{\sqrt{5}-1}$

2. $\dfrac{\sqrt{3}}{\sqrt{6}+\sqrt{2}}$

3. $\dfrac{\sqrt{8}-\sqrt{2}}{\sqrt{6}-\sqrt{8}}$

4. $\dfrac{\sqrt{2x}-\sqrt{y}}{\sqrt{3x}+\sqrt{5y}}$