Radicals worksheet Name: ………………………….

 Period : …………………..

 Write each rational exponent in radical form.

1. $36^{\frac{1}{2}}$ 2. $Y^{\frac{2}{3}}$

Write each radical in exponent form.

1. $\sqrt[3]{17}$ 4. $\sqrt[5]{5ab^{2}}$

Simplify. YOU MUST SHOW ALL WORK!!

1. $\sqrt{54xy^{6}z^{5}}$
2. $\sqrt[3]{90a^{4}b^{7}}$
3. $4\sqrt{18}+5\sqrt{50}$
4. $\sqrt{27}+2\sqrt{2}-\sqrt{72}$
5. $\sqrt{3 }(3\sqrt{12}+5)$
6. $\sqrt{27}$ ($\sqrt{32}-\sqrt{9} )$
7. $\sqrt{4 Y^{3}} ( \sqrt[3]{27 Y^{3}}-\sqrt{4 X} )$

Simplify by rationalizing the denominator.

1. $\frac{7}{\sqrt{5}}$ 13. $\frac{6}{3-\sqrt{6}}$

What is the conjugate of each expression?

$14. 2+\sqrt{7}$ 15. $\sqrt{3}-\sqrt{5}$

1. Simplify the expression by rationalizing the denominator.

$$\frac{1+\sqrt{3}}{3-\sqrt{5}}$$