

Name \_\_\_\_\_

Algebra 2 Worksheet  
#3 radicals

I. Simplify and rationalize denominator, if necessary.

1.  $\sqrt{\frac{5}{25}}$

2.  $\sqrt{\frac{7}{21}}$

3.  $\sqrt{\frac{12}{18}}$

4.  $-\sqrt{\frac{7}{2}}$

5.  $-\sqrt{\frac{21}{5}}$

6.  $-\sqrt{\frac{3}{2}}$

7.  $2\sqrt{\frac{21}{3}}$

8.  $\sqrt{\frac{x^4}{2}}$

9.  $\sqrt{\frac{16x^4}{y^6}}$

10.  $\sqrt{\frac{10x^2y}{2x^2y}}$

11.  $\sqrt{\frac{5n^5}{125}}$

12.  $\sqrt{\frac{4x^2}{5y}}$

13.  $-\sqrt{\frac{12x^2}{x}}$

14.  $\sqrt{\frac{8m^2}{2}}$

15.  $\sqrt{\frac{5m^4}{16}}$

16.  $\sqrt{\frac{14x^2}{3}}$

17.  $\frac{\sqrt{10m^2n^5}}{\sqrt{500}}$

18.  $\frac{\sqrt{17x}}{\sqrt{8y}}$

II. Find the conjugate of :

19.  $4 + \sqrt{3}$

20.  $\sqrt{8} - 5$

21.  $\sqrt{3} + 2\sqrt{7}$

III. Rationalize the denominator and simplify.

22.  $\frac{1}{3 - \sqrt{2}}$

23.  $\frac{4}{\sqrt{5} - 8}$

24.  $\frac{6}{2 - \sqrt{7}}$

25.  $\frac{10}{3 - 2\sqrt{3}}$

26.  $\frac{\sqrt{3}}{8 - 2\sqrt{3}}$

27.  $\frac{1 - \sqrt{6}}{2 - \sqrt{3}}$

28.  $\frac{5 + \sqrt{3}}{4 + \sqrt{3}}$

29.  $\frac{4 - \sqrt{2}}{4 + \sqrt{2}}$

30.  $\frac{\sqrt{7} - \sqrt{3}}{\sqrt{5} + \sqrt{2}}$