

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