Honors Math II
Unit 1.4 mult. , divide radicals

Name_____
Period_____ Date_____

Simplify. Write in simplest radical form. Rationalize all denominators. Show work for full credit.

1. $\frac{13}{\sqrt{5}}$	2. $\frac{2}{\sqrt{2}}$	3. $4\sqrt{6} \cdot 5\sqrt{2}$
4. $\sqrt{\frac{36}{16}}$	5. $\frac{8}{\sqrt{20}}$	6. $3\sqrt{6}(\sqrt{5} + \sqrt{2})$
7. $-2\sqrt{3}(2\sqrt{3} + 3\sqrt{8})$	8. $5\sqrt{6} \cdot 4\sqrt{6}$	9. $\frac{\sqrt{4}}{\sqrt{12}}$
10. $(\sqrt{7} + \sqrt{2})(\sqrt{7} - \sqrt{2})$	11. $(\sqrt{5} + 2\sqrt{3})(\sqrt{5} - 2\sqrt{3})$	12. $-5(2\sqrt{3} + 3\sqrt{7})$
13. $\frac{3}{\sqrt{2m}}$	14. $\frac{\sqrt{35}}{\sqrt{60}}$	15. $\frac{\sqrt{150}}{\sqrt{50}}$

16. $(9 + \sqrt{3})(9 - \sqrt{3})$	17. $(4 + \sqrt{5})(1 - \sqrt{3})$	18. $\sqrt{5}(2\sqrt{5} - 3\sqrt{10})$
19. $3\sqrt{18} + 2\sqrt{8}$	20. $9\sqrt{x^2} - \sqrt{36x^2}$	21. $-10\sqrt{120}$
22. $(-3x^2y^4)^2(4x^{-1}y^3)^3$	23. $\dfrac{-2^0}{7m^{-5}}$	24. $\dfrac{3^{10}}{3^{-7}}$
25. $2\sqrt[3]{27} - \sqrt[3]{16} + \sqrt[3]{54}$	26. $8\sqrt[3]{2} + 4\sqrt[3]{16}$	27. $\sqrt{24x^3y^7z^2}$

28. Find the value of each expression. Let $a = \sqrt{5} + 1$ and $b = \sqrt{5} - 1$.

a) ab b) $a + b$ c) $a - b$

29. Simplify the expression $\sqrt{3} \cdot \sqrt{2} + 5\sqrt{6}$. Choose the best answer.

a) $6\sqrt{6}$ b) $\sqrt{5} + 5\sqrt{6}$ c) $5\sqrt{11}$ d) 30