Do ODD Problems Only

Algebra II – 1st Semester - *Review Chapter 7.1-7.4*

Simplify each radical expression.

1. $\sqrt[3]{-27x^6}$ $-3x^2$
2. $\sqrt{a^4b^6}$
3. $\sqrt[5]{-32s^{15}t^{10}}$ $-2s^3t^2$
4. $\sqrt[4]{256y^8}$

Simplify each expression. Rationalize all denominators. Assume that all variables are positive.

5. $(2-\sqrt{5})(2+\sqrt{5})$ -1
6. $\dfrac{\sqrt{48a^5b}}{\sqrt{12ab}}$
7. $\sqrt{5}(2\sqrt{45}-\sqrt{5})$ 25
8. $\dfrac{7}{1-\sqrt{3}}$
9. $5\sqrt{32}-7\sqrt{8}$ $6\sqrt{2}$
10. $2\sqrt{15xy^3}\cdot 3\sqrt{30x^3y^2}$

Simplify each expression. Assume that all variables are positive.

11. $2y^{\frac{1}{2}}\cdot y$ $2y^{3/2}$
12. $(8^2)^{\frac{1}{3}}$
13. 3.6^0 1
14. $\left(\dfrac{1}{16}\right)^{\frac{1}{4}}$
15. $\left(\dfrac{27}{8}\right)^{\frac{2}{3}}$ $\dfrac{9}{4}$
17. $\left(3x^{\frac{1}{2}}\right)\left(4x^{\frac{2}{3}}\right)$ $= 12x^{7/6}$
18. $\left(3a^{\frac{1}{2}}b^{\frac{1}{3}}\right)^2$
19. $\left(y^{\frac{2}{3}}\right)^{-9} = \dfrac{1}{y^6}$
20. $\left(a^{\frac{2}{3}}b^{-\frac{1}{2}}\right)^{-6}$
21. $81^{-\frac{1}{2}}$ $\dfrac{1}{9}$
22. $\left(2x^{\frac{2}{5}}\right)\left(6x^{\frac{1}{4}}\right)$
23. $\left(9x^4y^{-2}\right)^{\frac{1}{2}}$ $\dfrac{9^{1/2}x^2}{y}$

Write each expression in radical form.

24. $x^{\frac{4}{3}}$
25. $a^{1.5}$ $\sqrt{a^3}$
26. $b^{\frac{1}{5}}$

Write each expression in exponential form.

27. $\sqrt[3]{m}$ $m^{1/3}$
28. $\sqrt{5y}$
29. $\sqrt[3]{2y^2}$ $2^{1/3}y^{2/3}$
30. $\left(\sqrt[4]{b}\right)^3$
31. $\sqrt{(6a)^4}$ $36a^2$
33. $\sqrt[5]{n^4}$