Algebra 1 Name_____

Exponents and Radicals

Date_____ Period____

Simplify.

1) $3rr^2$

2) $2b \cdot 3b \cdot 3b^0$

3) $\left(m^3\right)^2$

4) $(3r)^3$

Simplify. Your answer should contain only positive exponents.

5) $\dfrac{2x^2}{3x^0}$

6) $\dfrac{3b^3}{2b^2}$

7) $\left(x^5y^{-2}\right)^5 \cdot \left(-x^{-1}y^{-3}\right)^{-3}$

8) $\left(-yx^{-2}\right)^0 \cdot x$

Write each expression in radical form.

9) $2^{\frac{2}{5}}$

10) $4^{\frac{2}{3}}$

11) $x^{\frac{7}{5}}$

12) $p^{\frac{1}{2}}$

13) $b^{\frac{5}{4}}$

14) $(4n)^{\frac{5}{3}}$

Write each expression in exponential form.

15) $\sqrt[4]{3a}$

16) $\sqrt[3]{a}$

17) $\left(\sqrt[3]{6r}\right)^4$

18) $\sqrt{v}$

Write each expression in exponential form and evaluate. Round two decimal places.

19) $\left(\sqrt[5]{10}\right)^8$

20) $\left(\sqrt{6}\right)^3$

21) $\left(\sqrt[3]{7}\right)^5$

22) $\left(\sqrt{7}\right)^5$