SM2 In-class 2-7 Practice Radicals and Powers

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $\dfrac{\left(2xy^{-4}\right)^{-2}}{\left(x^3y^{-1}\right)^{-1}}$

2) $\dfrac{\left(x^3y^3\right)^{-3}}{2x^3y^4}$

Simplify.

3) $-2\sqrt{2}+3\sqrt{3}-3\sqrt{3}$

4) $5\sqrt{3}\left(-2\sqrt{3}+3\sqrt{2}\right)$

5) $4\sqrt{125a^3bc^2}$

6) $\dfrac{3\sqrt{5}}{2\sqrt{3}}$

7) $\dfrac{7\sqrt{6}}{5\sqrt{42}}$

8) $\dfrac{6\sqrt{16}}{2\sqrt{28}}$

Write each expression in exponential form.

9) $\left(\sqrt[4]{x}\right)^7$

10) $4\cdot\left(\sqrt[3]{5b}\right)^5$

Write each expression in radical form.

11) $3\cdot(6k)^{\frac{5}{2}}$

12) $(3n^2)^{\frac{1}{5}}$

Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

13) $vu^{\frac{1}{3}} \cdot 2u^{\frac{3}{2}}v^2$

14) $4a^{-\frac{1}{3}}b^{\frac{1}{4}} \cdot 3ab$

15) $(xy)^{-\frac{1}{3}}$

16) $\left(y^{\frac{3}{2}}\right)^{\frac{5}{3}}$

17) $\dfrac{4u^{\frac{7}{4}}}{3v^{\frac{5}{3}}}$

18) $\dfrac{2x^{-\frac{1}{2}}}{x^{\frac{4}{3}}}$