Math-2 Name_____ ID: 1

SM2 HW 2-7 (Radicals and Powers

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $\dfrac{yx^{-1}}{\left(2yx^{-3}\right)^2}$

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

Simplify.

3) $3\sqrt{6} - 2\sqrt{2} + 3\sqrt{6}$

4) $3\sqrt{15}\left(4\sqrt{6} - 4\sqrt{5}\right)$

5) $-7\sqrt{180m^4np^2}$

6) $\dfrac{4\sqrt{4}}{5\sqrt{12}}$

7) $\dfrac{2\sqrt{14}}{5\sqrt{12}}$

8) $\dfrac{2\sqrt{2}}{7\sqrt{3}}$

Write each expression in exponential form.

9) $\left(\sqrt[5]{x}\right)^8$

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

Write each expression in radical form.

11) $(5r)^{\frac{2}{3}}$

12) $7 \cdot (6n)^{\frac{5}{3}}$

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

13) $3x^{\frac{3}{2}} \cdot 3x^{-\frac{1}{2}}$

14) $n^{-\frac{2}{3}} \cdot 2n^{-\frac{3}{2}} \cdot m^{-2}n^{-\frac{3}{2}}$

15) $\left(m^{\frac{3}{2}}n^{\frac{1}{3}}\right)^{\frac{4}{3}}$

16) $\left(m^{-\frac{3}{2}}n^{-\frac{7}{4}}\right)^{\frac{2}{3}}$

17) $\dfrac{2xy}{2x^{\frac{2}{3}}y^{-\frac{5}{3}}}$

18) $\dfrac{u^{\frac{3}{2}}v^{\frac{3}{2}}}{3u^{\frac{5}{3}}v^{-\frac{2}{3}}}$