Math-2 Name_____ ID: 1

SM2 In-class 2-7 Practice Radicals and Powers

Date_____ Period____

Simplify. Your answer should contain only positive exponents.

1) $\dfrac{(2xy^{-4})^{-2}}{(x^3y^{-1})^{-1}}$ $\dfrac{y^7x}{4}$

2) $\dfrac{(x^3y^3)^{-3}}{2x^3y^4}$ $\dfrac{1}{2x^{12}y^{13}}$

Simplify.

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

$-2\sqrt{2}$

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

$-30+15\sqrt{6}$

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

$20ac\sqrt{5ab}$

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

$\dfrac{\sqrt{15}}{2}$

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

$\dfrac{\sqrt{7}}{5}$

8) $\dfrac{6\sqrt{16}}{2\sqrt{28}}$ $\dfrac{6\sqrt{7}}{7}$

Write each expression in exponential form.

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

$x^{\frac{7}{4}}$

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

$4\cdot(5b)^{\frac{5}{3}}$

Write each expression in radical form.

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

$3\cdot(\sqrt{6k})^5$

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

$\sqrt[5]{3n^2}$

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

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

$2v^3u^{\frac{11}{6}}$

14) $4a^{-\frac{1}{3}}b^{\frac{1}{4}} \cdot 3ab$ $12a^{\frac{2}{3}}b^{\frac{5}{4}}$

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

$\frac{x^{\frac{2}{3}}y^{\frac{2}{3}}}{xy}$

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

17) $\frac{4u^{\frac{7}{4}}}{3v^{\frac{5}{3}}}$ $\frac{4u^{\frac{7}{4}}v^{\frac{1}{3}}}{3v^2}$

18) $\frac{2x^{-\frac{1}{2}}}{x^{\frac{4}{3}}}$ $\frac{2x^{\frac{1}{6}}}{x^2}$