Math-2A Name_____ ID: 1

SM2-Aa HW #3-5 (Review Radicals and Powers)

Date_____ Period____

Simplify.

1) $\sqrt{8x^4}$

2) $\sqrt{27k^3}$

3) $\sqrt[4]{162u^8v^3}$

4) $\sqrt[4]{48m^3n^2}$

5) $2\sqrt{3x} - 3\sqrt{3x} - 2\sqrt{5x}$

6) $\sqrt{3x}\left(5x + \sqrt{6x}\right)$

7) $\dfrac{\sqrt{15x}}{5\sqrt{4x^2}}$

8) $\dfrac{\sqrt{10xy}}{\sqrt{45x^2y}}$

9) $\dfrac{3\sqrt{12xy}}{4\sqrt{3x}}$

Factor each completely.

10) $m^2 - 8m + 12$

11) $6k^2 - 6k - 72$

Simplify. Your answer should contain only positive exponents.

12) $3a^{-4}b^4 \cdot 4a^3b^{-4} \cdot 3a^4b^2$

Simplify.

13) $\left(25k^2\right)^{\frac{3}{2}}$

14) $\left(64a^2\right)^{\frac{3}{2}}$

15) $2x^{\frac{2}{3}} \cdot 4x^{\frac{5}{4}}y^{\frac{1}{3}}$

16) $4x^{\frac{3}{2}} \cdot 4x^{\frac{3}{2}}$

Write each expression in radical form.

17) $\left(x^3\right)^{\frac{1}{4}}$

18) $p^{\frac{5}{2}}$

Write each expression in exponential form.

19) $\left(\sqrt[5]{2b}\right)^8$

20) $\left(\sqrt[6]{x}\right)^7$

Simplify.

21) $\left(x^{\frac{2}{3}}y^{-2}\right)^2$

22) $\left(u^{-\frac{5}{3}}v^{-2}\right)^{-\frac{3}{2}}$

23) $k^{\frac{7}{4}} \cdot 3k^{\frac{2}{3}} \cdot k$

24) $4x^{\frac{4}{3}} \cdot 4x^{\frac{2}{3}}$