Math-2 Name_____ ID: 1

SM2 In-Class #2-9 (Unit 2 Test Preview HW)

Date_____ Period____

Simplify. Your answer should contain only positive exponents. There may not be any fractional exponents in the denominator.

1) $m^3n^4 \cdot 2mn^2$

2) $2x^3y^{-2} \cdot \left(x^4y^2\right)^0$

3) $\left(m^4 - 5m^2\right) - \left(3m^2 - 5m^4\right)$

4) $\left(5k^3 + 8k\right) + \left(6k^3 + 5k\right)$

5) $4x^2\left(3x + 8\right)$

6) $\dfrac{3x^3y^2}{4y^{-2}}$

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

8) $\dfrac{x^4y^{-4}}{(2x)^4}$

Simplify.

9) $-3\sqrt{5} - 2\sqrt{3} + 2\sqrt{3}$

10) $-5\sqrt{3}\left(5 + \sqrt{10}\right)$

11) $\sqrt{27ab}$

12) $\dfrac{\sqrt{6}}{\sqrt{15}}$

13) $\dfrac{3\sqrt{3}}{5\sqrt{5}}$

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

Write each expression in exponential form.

15) $\left(\sqrt[3]{6k}\right)^2$

16) $2 \cdot \left(\sqrt[3]{v}\right)^4$

Write each expression in radical form.

17) $(7x)^{\frac{3}{2}}$

18) $(2r^2)^{\frac{1}{6}}$

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

19) $3u^{\frac{1}{4}}v^{\frac{3}{2}} \cdot 3vu^2$

20) $\left(x^{\frac{2}{3}}y^{\frac{1}{4}}\right)^{\frac{3}{2}}$

21) $\dfrac{a^{-\frac{3}{2}}b^{\frac{1}{4}}}{a^{\frac{7}{4}}}$

Factor the common factor out of each expression.

22) $21x^3 + 7$

23) $20 + 100x + 70x^2$

Find each product.

24) $(3v - 2)(v + 5)$

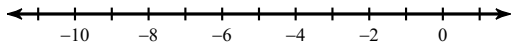
25) $(3x + 4)(5x - 2)$

Solve each equation.

26) $|v - 1| = 5$

Write the solution to the inequality in: (a) Simplified inequality notation, (b) Interval notation then (c) graph the solution.

27) $|k + 4| < 4$



Solve each equation.

28) $9|-5 + x| + 7 = 97$

29) $|v + 3| = -3$