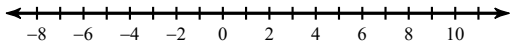
Math-3 Name_____ ID: 1

SM3 HW 5-1 (Properties of Exponents)

Date_____ Period____

Solve. Write the solution:
a) As a simplified inequality. (b) In Interval notation. (c) Graphically.

1) $x + 6 < 15$ and $x - 9 \geq -16$



Simplify.

2) $-3n^4 \cdot 4n \cdot 2n^4$

3) $2n^3 \cdot 4n^3$

4) $-2xy^3 \cdot 4x^3$

5) $4mn^4 \cdot nm^2$

6) $(3x^3 + 4x^2) - (4x^2 - 2x^3)$

7) $(8b - b^3) + (4b - 8)$

8) $6k^3(2k - 8)$

9) $4x^3(5x - 5)$

Simplify. Your answer should contain only positive exponents. SHOW YOUR WORK.

10) $2xy^{-2} \cdot 4x$

11) $4x^{-2} \cdot 2x^{-2}y^4$

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

13) $\left(4m^{3}n^{-1}\right)^{-2}$

14) $\left(2u^{4}v^{2}\right)^{2}$

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

16) $\dfrac{x^{0}y^{4}}{\left(x^{-4}\right)^{3}}$

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

18) $\dfrac{2a^{4}b^{4}}{\left(a^{0}b^{4}\right)^{-3}}$

19) $\dfrac{x^{-1}y^{2}}{\left(x^{3}\right)^{0}}$