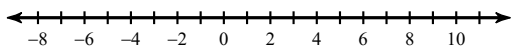


SM22 HW 2-2 (Properties of Exponents)

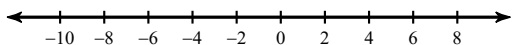
Date _____ Period _____

Solve ("write the simplified inequality) and graph the solution.

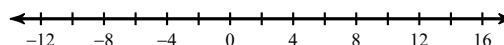
1) $x + 6 < 15$ and $x - 9 \geq -16$

**Solve each inequality and graph its solution.**

2) $|m + 1| \leq 7$



3) $|m - 2| > 11$

**Simplify.**

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

5) $2n^3 \cdot 4n^3$

6) $-2xy^3 \cdot 4x^3$

7) $4mn^4 \cdot nm^2$

8) $(3x^3 + 4x^2) - (4x^2 - 2x^3)$

9) $(8b - b^3) + (4b - 8)$

10) $6k^3(2k - 8)$

11) $4x^3(5x - 5)$

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

12) $2xy^{-2} \cdot 4x$

13) $4x^{-2} \cdot 2x^{-2}y^4$

14) $(3y^{-2})^{-4}$

15) $(4m^3n^{-1})^{-2}$

16) $(2u^4v^2)^2$

17) $(4x^{-4}y^2)^{-3}$

18) $\frac{x^0y^4}{(x^{-4})^3}$

19) $\frac{(2xy^2)^{-1}}{(2x^{-2}y^2)^4}$

20) $\frac{2a^4b^4}{(a^0b^4)^{-3}}$

21) $\frac{x^{-1}y^2}{(x^3)^0}$