Algebra 1 Name_____

HW 11.1 Date_____ Algebra____

Factor each of the following polynomials completely:

1) $-16k^3 - 4k^4 - 12k^5$

2) $40x^5y - 40x^4y + 50x^3y$

3) $n^2 - n - 72$

4) $2m^2 + 21m + 27$

5) $3n^2 + 27n$

6) $6n^2 - 32n - 128$

7) $9m^2 - 4n^2$

8) $9 + n^4$

Simplify. Your answer should contain only positive exponents.

9) $k^3 \cdot 3k^{-2}$

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

11) $\dfrac{3x^{-1}y^{-1}}{2x^0 y^4}$

12) $\dfrac{a^{-1}b^4}{a^{-4}b^{-4} \cdot 3ab^3}$

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

14) $\dfrac{(2y)^3}{x^0 y^4}$