Polynomials 1.23.17

Welcome

Warm-up: Find the mean median and mode of the midterms and the range
85 81 67 80 73 84 62 83 68 59 52 67 0 66 76 59 81 84 97 91 97 99 80 96 78 83 82 83 94 95 85 89 92 92 90 75 94 66 86 68 94 66 41 90 51 67 64 74 84 90 80 62

Today we start talking about polynomials.
A monomial is a number, a variable, or the product of a number and a variable.
A variable divided by a variable is not a monomial.
Talk about: $3x^2$, $x+5$, $\frac{ab^2}{5}$, $\frac{c}{d}$ Which are monomials and which are not.

The product of powers
With monomials we have to use the properties of exponents to simplify for example if we have $(5x^6)(x^7) = 5x^{13}$ We have to use the property of exponents when they all multiplied we add the exponents together.
You try
$(4a^2b^3)(-7a^4b^5) = -28a^6b^8$

Power of a power
To help simplify monomials we might also have to use the property of exponents to exponents.
$[(3^3)^2]^4 = [3^{3\cdot 2}]^4 = 3^{24}$

If the length of a square is 4ad find its area $(4ab)^2 = 16a^2b^2$

You try:
Simplify $\left(\frac{1}{3}xy^4\right)[(-6)^2]^3 = 5184x^{2y^{14}}$

HW: pg 413 #12-20, 30-32, 38-40, 46