Homework Review - 8.3

(51) $m = 10^{-2}$ grams / grain

box $= 10^{3}$ grams

$\frac{10^{-2} \text{ grams}}{1 \text{ grain}} \rightarrow \frac{1 \text{ grain}}{10^{-2} \text{ grams}}$

$\frac{1 \text{ grain}}{10^{-2} \text{ grams}} \cdot 10^{3} \text{ grams} = \frac{10^{3}}{10^{-2}} \text{ grains}$

10^{3+2} grains

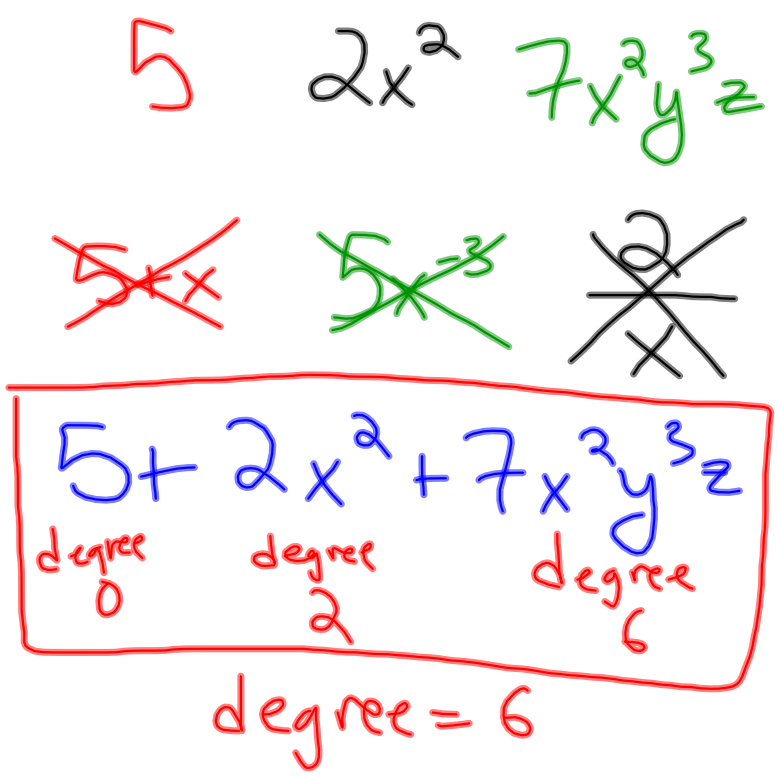
10^{5} grains

(33) $5m^{-3}n^{-4}$

$$5\left(\frac{1}{m^3}\right)\left(\frac{1}{n^4}\right) = \frac{5}{m^3 n^4}$$

(35) $(mn)^0 = 1$

Adding and Subtracting Polynomials



What is a monomial?

#, variable, multiplied together, whole number (+) exponent

What is NOT a monomial?

Addition, subtraction, decimal or negative exponent, variable in denominator

What is a polynomial?

What is the "degree" of a polynomial?

adding exponents of variable terms of each monomial - degree = biggest #

Writing/rewriting Polynomials

$5^{0} + 2z^{2}y^{3} - 6xy^{4} + 4x^{2}y^{3}z^{6}$

Order each term by degree

$4x^{2}y^{3}z - 6xy^{3} + 2z^{2}y + 5$

Within each term, alphabetize

$4x^{2}y^{3}z - 6xy^{3} + 2yz^{2} + 5$

Bi-, Tri-nomials +

$2x + 4$

binomial

$6x + 2xy - 7$

trinomial

Adding and Subtracting Polynomials

$(3z^2 + z + 4) + (2z^2 + 2z + 3)$

$2z^2 + 2z + 3$

$3z^2 + 2z^2 + z + 2z + 4 + 3$

$5z^2 + 3z + 7$

Line up like terms horizontally or vertically

Same variables, same exponents = like terms
Constants too

Combine

Make sure to write in correct order

9. $(2x^2 + 5x + -1) + (x^2 + -5x + 7)$

$x^2 + -5x + 7$

$3x^2 + 6$

10. $(10b^2 + -3b + 2) + -(4b^2 + 5b + 1)$

$10b^2 + -3b + 2 + -4b^2 + -5b + -1$

$6b^2 + -8b + 1$

11. $(-4m^2 + 3m + -1) + -(m + 2)$

$(-4m^2 + 3m + -1) + (-m + -2)$

$-m + -2$

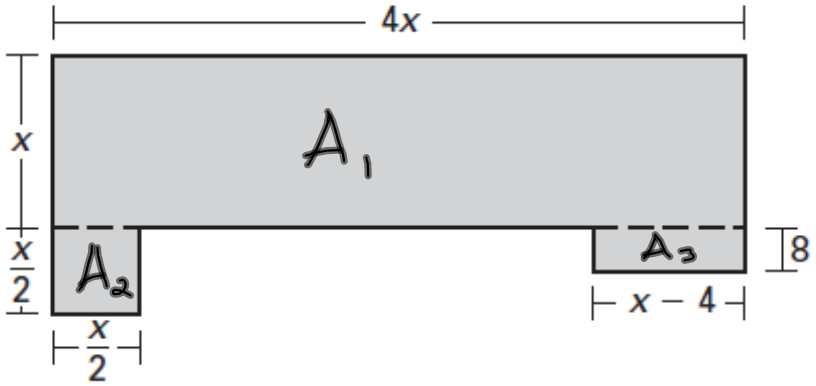
$-4m^2 + 2m + -3$

12. $(3m + 4) + -(2m^2 + -6m + 5)$

$3m + 4 + -2m^2 + 6m + -5$

$-2m^2 + 9m + -1$

Floor Plan The first floor of a home has the floor plan shown. Find the area of the first floor.



$A = l \times w$

$A_1 = 4x \cdot x = 4x^2$

$A_2 = \frac{x}{2} \cdot \frac{x}{2} = \frac{x^2}{4}$ $\frac{1}{4}x^2$

$A_3 = (x + -4)8 = 8x + -32$

$4\frac{1}{2}x^2 + 8x + -32$

Homework:

p. 557, 4-28 even, 30, 40