October 5, 2015

$f(x) = -3x^2 + 2x - 5$

$f(-5) = -3(-5)^2 + 2(-5) - 5$

$= -3(25) - 10 - 5$

$= -75 - 10 - 5$

$= -90$

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$g(x) = \dfrac{\frac{3}{2x} + \frac{4}{x}}{-\frac{8}{5x}}$

$g(-4) = \dfrac{\frac{3}{2(-4)} + \frac{4}{(-4)}}{-\frac{8}{5(-4)}}$

$= \dfrac{\frac{3}{-8} + \frac{4}{-4}}{-\frac{8}{-20}}$

$= \dfrac{\frac{3}{-8} + \frac{-1}{1}}{\frac{8}{20}}$

$= \dfrac{\frac{-3+(-8)}{8}}{\frac{8}{20}}$

FACT: $-\frac{a}{b} = \frac{-a}{b} = \frac{a}{-b}$

$= -\frac{11}{8} \cdot \frac{20}{8} = -\frac{11}{8} \cdot \frac{5}{2} = -\frac{55}{16}$

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October 12th

11:59 pm

Turn in SC #2 on Wednesday

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5.4 Operations on Polynomials

* Addition (Combining Like Terms → adding the Coefficients)
  * Same Variable
  * Same Exponent

$(-3x^5 + 8x^4 - x^3 + x^2 + 5) + (4x^5 - 2x^3 - 9)$

$-3x^5 + 8x^4 - x^3 + x^2 + 5 + 4x^5 - 2x^3 - 9$

Combine Like Terms

$-3x^5 + 4x^5 + 8x^4 - x^3 - 2x^3 + x^2 + 5 + (-9)$

$(-3+4)x^5 + 8x^4 + (-1+(-2))x^3 + x^2 + 5 + (-9)$

$x^5 + 8x^4 - 3x^3 + x^2 - 4$

D: 5 polynomial

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$(6x^3 - 5x^2 + 2) - (-5x^3 + 8x^2 + 7)$

$6x^3 - 5x^2 + 2 + 5x^3 - 8x^2 - 7$

$11x^3 - 13x^2 - 5$

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#30

$(y^3 - 7x^4y^4) + (-10x^4y^3 + 6y^3 + 4x^4y^4) - (x^4y^3 + 6x^4y^4)$

$y^3 - 7x^4y^4 - 10x^4y^3 + 6y^3 + 4x^4y^4 - x^4y^3 - 6x^4y^4$

$-9x^4y^4 - 11x^4y^3 + 7y^3$

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5.4 Read & #1 – #33 on 3

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5.5 Laws of Exponents

a^{n} ← Exponent

Base

"n" factors of a

↓ multiplication

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The meaning of Exponents

$x^3 = \underbrace{x^1 \cdot x^1 \cdot x^1}_{\text{same base}}$

$= x^{1+1+1=3} = x^3$

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$x^2 \cdot x^3$

$x \cdot x \cdot x \cdot x \cdot x = x^5$

Rule: ~~same base~~; add exponents

$x^{2+3=5}$

$= x^5$

$x^1y^3 \cdot x^2y^1$

$x \cdot y \cdot y \cdot y \cdot x \cdot x \cdot y$

$x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot y$

$x^3 y^4$

$x^{1+2=3} \cdot y^{3+1=4}$

$x^3 y^4$

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$a^2 \cdot a^2 = a \cdot a \cdot a \cdot a = a^4$

$a^{14} \cdot a^{20} b$

$a^{14+20=34} \cdot b$

$a^{34} b$

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