Math 05, Homework 3 on Sections 3.1 - 3.5

Write all your working out and answers on a separate sheet. These first ten questions are 2 points each and **their solutions are on page 2**. Check that you get the same answers. If you don't, then look at your notes or the book or ask me. Only do the last eight questions when you are sure you understand the first ten.

It is very important that you show clearly any work you had to do to get your answers. Just writing the answer down with no work shown is not enough.

(1) Compute: $5 - (3 \cdot 4)^2$

(2) Calculate: $\dfrac{-7 - (-1)^3}{-1 - (-3)}$

(3) Evaluate the algebraic expression $x^2 - 5x + 2$ when $x = 3$.

(4) Evaluate $x^2 - y^2$ when $x = -2$ and $y = -3$.

(5) Evaluate $\dfrac{2x + 3}{2x + 1}$ when $x = -3$.

(6) Evaluate $3y^2 - y - 6$ when $y = 1/2$.

(7) For the function $f(x) = x^3 - 2x^2$, calculate: **(a)** $f(0)$,   **(b)** $f(-3)$.

(8) Translate into algebra: "Eight more than twice an unknown quantity"

(9) Translate into algebra: "Five less than half a number"

(10) Translate into algebra: "The difference of twice the width and one third of the length"

These next eight[1] questions are 2 points each. Show clearly all your working out and reasoning.

(11) Compute: $7 - (2 \cdot 5)^2$

(12) Calculate: $\dfrac{-1 - (-1)^5}{1 - (-1)}$

(13) Evaluate $x^2 - y^2$ when $x = 4$ and $y = -3$.

(14) Evaluate $\dfrac{2x + 3}{2x + 1}$ when $x = -1$.

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[1]Four more questions on the next page

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(15) Evaluate $\sqrt{y^2 - 2y + 1}$ when $y = 5$.

(16) For the function $g(x) = x^2 - x - 1$, calculate: **(a)** $g(0)$, **(b)** $g(3)$.

(17) Translate into algebra: "Four more than the product of seven and a number squared"

(18) Translate into algebra: "Nine less than one fifth of a number"

Answers to questions (1)-(10):

(1) -139

(2) -3

(3) -4

(4) -5

(5) $\dfrac{3}{5}$

(6) $-\dfrac{23}{4}$

(7) **(a)** 0, **(b)** -45

(8) $2x + 8$

(9) $\dfrac{x}{2} - 5$

(10) $2W - \dfrac{L}{3}$