Math 1010 - Quiz 2

University of Utah

Fall 2009

Name: Solutions

1. Simplify the following expressions:

   (a) (2 points)

$$-3z^4 + 6z - z + 8 + z^4 - 4z^2$$

   Solution

$$-2z^4 - 4z^2 + 5z + 8$$

   (b) (3 points)

$$-5t(7 - 2t)$$

   Solution

$$10t^2 - 35t$$

   (c) (4 points)

$$2[3(b - 5) - (b^2 + b + 3)]$$

   Solution

$$\begin{aligned} &= 6(b - 5) - 2(b^2 + b + 3) \\ &= 6b - 30 - 2b^2 - 2b - 6 \\ &= -2b^2 + 4b - 36. \end{aligned}$$

2. (3 points) Evaluate the algebraic expression:

$$x^2 - xy + y^2$$

at the values $x = -3$, $y = -2$.

Solution

$$(-3)^2 - (-3)(-2) + (-2)^2 = 9 - 6 + 4 = 7.$$

3. (3 points) Solve the linear equation:

$$6(x + 2) = 30.$$

That is to say, find the value of x that satisfies the above equation.

Solution

$$\rightarrow 6x + 12 = 30$$

$$\rightarrow 6x = 18$$

$$\rightarrow x = 3.$$