MATH 100 Solutions: QUIZ I 6 sept 2018

(calculator free)

*To obtain credit, you must show your work for each problem!* Place a box around each answer.

1. *[4 pts]* *Simplify fully*: 4(1 – 3(x – 11)) – 12(4 – x)

***Solution:*** *Do not skip steps!*

4(1 – 3(x – 11)) – 12(4 – x) =

4(1 – 3x + 33) – 12(4 – x) =

4(34 – 3x) – 12(4 – x) =

136 – 12x – 12(4 – x) =

136 – 12x – 38 + 12x =

**88**

*Quick check:* Let x = 0. Then 4(1 – 3(x – 11)) – 12(4 – x) = 4(1 – 3(– 11)) – 12(4) = 4(1 + 33) – 48 = 4(34) – 48 = 136 – 48 = 88.

1. *[4 pts]* *Simplify fully:*

***Solution:*** *Do not skip steps!*

1. *[4 pts]* Let a = 3, b = 1, c = 0, d = 4. Evaluate

***Solution:*** Using the fact that any multiple of 0 is 0:

1. *[4 pts]* Solve |x – 4| = 5.

***Solution:*** Either x – 4 = 5 or x – 4 = -5.

If x – 4 = 5, then x = 9. If x – 4 = -5, then x = -1.

We should check each solution to be certain it satisfies the given equation:

If x = 9, then |x – 4| = |9 – 4| = |5| = 5. So this checks.

If x = -1, then |x – 4| = |-1 – 4| = |-5| = 5. So this checks as well.

Hence the solutions to the given equation are **x = 9**, **x = -1**.

1. *[4 pts]* If artichokes sell at 5 for 4 dollars how much will it cost (in dollars) to buy *x* artichokes?

***Solution:*** One artichoke will cost 4/5 dollars. Thus the price of x artichokes is



**Extra Credit** *[4 pts]* Simplify fully: 8x – {16y – [3x – (12y – x) – 8y] + x}

***Solution****:* *Do not skip steps!*

Beginning from the innermost pair of parentheses:

8x – {16y – [3x – (12y – x) – 8y] + x} =

8x – {16y – [3x – 12y + x – 8y] + x} =

8x – {16y – [3x – 12y + x – 8y] + x} =

8x – {16y – [4x – 20y] + x} =

8x – {16y – [4x – 20y] + x} =

8x – {16y – 4x + 20y + x} =

8x – {– 3x + 36y} =

8x + 3x – 36y =

**11x – 36y**

