Name: SOLUTIONS

Student ID: _____

Quiz 1

Question 1. *(6 marks)*

Solve the following linear equations:

(a) $3x - \frac{4}{3} = 20 + \frac{1}{3}x$

$$3\left(3x - \frac{4}{3}\right) = 3\left(20 + \frac{1}{3}x\right)$$

$$9x - 3 \cdot \frac{4}{3} = 60 + 3 \cdot \frac{1}{3}x$$

$$9x - 4 = 60 + x$$

$$\frac{8x}{8} = \frac{64}{8}$$

$$\boxed{x = 8}$$

(b) $11 - (x + 5) = 2[2(x - 1) + 7]$

$$11 - x - 5 = 2(2x - 2 + 7)$$

$$6 - x = 2(2x + 5)$$

$$6 - x = 4x + 10$$

$$-4 = 5x$$

$$\boxed{-\frac{4}{5} = x}$$

Question 2. *(4 marks)* Using a linear equation, find three consecutive odd integers such that 3 times the middle one is 1 more than the sum of the other two.

LET x BE THE FIRST ODD INTEGER

THEN $x+2$ IS THE SECOND ODD INTEGER

AND $x+4$ IS THE FOURTH ODD INTEGER

$\therefore$

$$3(x+2) = x + (x+4) + 1$$

$$3x + 6 = 2x + 5$$

$$x = -1$$

$\therefore$ THE THREE INTEGERS ARE $-1, 1, 3$