

Name:

Solutions!

Math 1030-008 Fall 2008

### Quiz 1

Calculators are allowed, but make sure you show all of your work! The more work you show, the more likely you are to get partial credit.

1. Solve for  $x$ :

$$\begin{aligned} \text{(a)} \quad 5x - 8 &= x \\ &+8 \quad +8 \\ 5x &= x + 8 \\ -x \quad -x \\ 4x &= 8 \\ \div 4 \quad \div 4 \\ \boxed{x = 2} \end{aligned}$$

$$\begin{aligned} \text{(b)} \quad \left(\frac{x}{5} = 1 + \frac{x}{2}\right) \times 10 \\ 10 \frac{x}{5} &= \left(1 + \frac{x}{2}\right) 10 \\ 2x &= 10 + 5x \\ -5x \quad -5x \\ -3x &= 10 \\ \div -3 \quad \div -3 \\ \boxed{x = -\frac{10}{3}} \end{aligned}$$

2. Evaluate, if  $a = 3$ ,  $b = 4$ , and  $c = 2$ :

$$a + b \div c + 1 = 3 + 4 \div 2 + 1 = 3 + 2 + 1 = \boxed{6}$$

3. Lizards have two eyes, but tuataras have three (two normal ones, and a pineal eye in the back of their head). You know that your terrarium has a total of eight eyes in it. How many tuataras do you have, and how many lizards? There is more than one possibility. List all of them!

L lizards (2 eyes each)  
T tuataras (3 eyes each)  
8 eyes

So have

$$2L + 3T = 8$$

We have to have an even number of tuataras, so:

T	L
2	1
0	4

And that's all!