

Algebra II, Quiz 1.1-1.3

1. Write an expression for the sequence of operations:

- a) Subtract  $x$  from 1, double, add 3
- b) Subtract 1 from the total of two more than triple  $x$

2. Write an equation representing the situation if  $p$  is the price of the dinner in dollars:

- a) The cost for three dinners plus a \$5 tip is \$32
- b) The cost of two dinners plus a 20% tip is \$21.20.  
(Hint: a 20% tip is calculated by multiplying the base cost of the dinners by 20/100, or .2.)

3. Write in words the statement represented by the equation  $s + 10 = 2s$ . Don't use the variable placeholder letter (in this case "s") when writing in words. For example for  $3 - r = 3r$  the answer would be "a number subtracted from three is triple the same number".

4. Is the value of the variable a solution to the equation? Justify your answer.

- a)  $t + 3 = t^2 + 9$ ,  $t = 3$
- b)  $t(1 + t(1 + t(1 + t))) = 1$ ,  $t = 0$

5. Evaluate and simplify the following expressions, given that  $u = -2$ ,  $v = 3$ ,  $w = 2/3$  :

- a)  $u^2 + v^2 - w(u - v)^2$
- b)  $w - 3(v - u)^2$

6. State whether the following expressions are equivalent and **justify** your answer:

- a)  $2x + 6$  and  $2(x + 3)$
- b)  $(x + y)^2$  and  $x^2 + y^2$
- c)  $3x^4$  and  $3x^2$