

Math 70 - Fall 2007 Test 1 Friday October 5th

a. Write what you know. b. Simplify. c. Box your answers

1). Simplify and write as an expression with positive exponents:

a). $\frac{7^2}{7^4}$

b). $\frac{(-2xy^3)^3}{x^3y^2}$

c). $\frac{(a+b)^{-2}}{(a+b)^4}$

2). Write an equation of a line through $(1, 20)$ that has slope:

a). -5

b). 0

3). For $y = -2x + 3$, find the slope and the vertical intercept. Then sketch a graph.

4). Change the following units (note: $1ft = 30.5cm = 0.30m$)

a). 2 days to minutes

b). 500 ft to meters

5). Solve the following system of equations

a).

$$y - \frac{x}{2} = 9$$

$$2y = x + 18$$

b).

$$x + 3y = 6$$

$$7x + 6 = -3y$$

6). Maria's excellent grades earned her two different scholarships. In total she has received \$3000. She puts each scholarship in a different savings account. If one scholarship earns her 5% annual interest and the other 7%, find the amount of each investment if the total interest earned is \$200

7). David bought his house in 1995 for \$300,000. If the house price increased at a steady rate and in 2000 his house worth was \$400,000

a). Find a formula that to represent the value of the house $V(t)$ as a function of time t .

b). The house got sold in 2005, how much did he get for it?

Extra credit: Give an example for linear system of equations that has no solutions.