Math Assessment, Introductory Microeconomics for Public Policy, PPPA 6017

A. Two Equations and Two Unknowns, 5 questions

1. Suppose that $x = 5y - 3$, and suppose that $y = 2$. What is x?

2. Suppose that $y = 400x - 8\,000$, and also that $y = 52\,000 - 200x$. The x in the (x, y) that satisfies both equations is ….

3. The y in the (x, y) that satisfies both equations is ….

4. There are two lines. The first is $y = 10\,000 - 100x$ and the second is $x = \frac{y}{100}$. At what point (x, y) do these two lines intersect? The x in the $(x.y)$ intersection is …

5. The y in the (x, y) intersection is …

B. Graphing and Triangles, 4 questions

1. Find the area of a triangle whose vertices are $(1, 5)$, $(1, 1)$ and $(5, 1)$.

2. Suppose you graph $y - 2 = 5x$, putting x on the horizontal axis and y on the vertical axis. What is the slope of this line?

3. What is the y-intercept from the equation in question 2?

4. Graph points A and B. Point A is $(5, 10)$, and point B is $(10, 15)$. Relative to A, is B is

C. Exponents, 2 questions

1. Simplify $\frac{a^3}{a^1}$.

   Choices: $a^{1/3}, a^2, a^3, a^6$, no idea

2. Simplify $\frac{b^{2/3}}{b^{5/3}}$.

   Choices: $1/b, b^{7/3}, b^{-7/3}, b^{10/3}$, no idea