

Quiz #3
ECO 3401
Dr. Gerking

Key

Directions:

Bubble in the correct answer to each question on your BROWN scan-tron sheet. Write your name LEGIBLY on the scan-tron sheet, then find your form code at the top right corner of this page. Write the form code in the boxes at the top of the scan-tron sheet, and bubble in the numbers appropriately. You will turn in the scan-tron sheet, and keep this quiz sheet for your records.

Solve the following:

1. $-4 \geq 5(3-x)$

- (a) $x \leq 4.667$
- (b) $x \geq 4.667$
- (c) $x \leq 6.333$
- (d) $x \geq 6.333$
- (e) None of these

$$\begin{aligned} -4 &\geq 15 - 5x \\ -19 &\geq -5x \\ 3.8 &\leq x \end{aligned}$$

2. To produce 1 unit of a new product, a company determines the cost for material is \$2.50 and the cost for labor is \$5. The constant fixed cost is \$5,000. If the market price of the product is \$8.40 per unit, determine the least number of units that must be sold by the company to realize a profit.

- (a) 5,000 units
- (b) 7,778 units
- (c) 5,556 units
- (d) 5,600 units
- (e) None of these

$$\begin{aligned} R - C &= \pi > 0 \\ (8.40)x - [(2.50)x + (5.00)x + 5,000] &> 0 \end{aligned}$$

$$8.40x - 7.50x - 5000 > 0$$

$$0.9x > 5000$$

$$x > 5,555.56$$

$$x > 5,556$$

to show a profit.

3. Solve the equation $|x-7|=9$

- (a) $x=16$ or $x=-2$
- (b) $x=-16$ or $x=-2$
- (c) $x=7$ or $x=-9$
- (d) $x=-7$ or $x=9$
- (e) None of these

$$x - 7 = -9 \quad \text{or} \quad x - 7 = 9$$

$$x = -2 \quad \text{or} \quad x = 16$$