

Key

Quiz #2  
ECO 3401  
Dr. Gerking

**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. The unit cost of a product to a retailer is \$9.80. If the retailer wishes to make a profit of 30% on the selling price, at what price should the product be sold?

- (a) \$12.50
- (b) \$14.00
- (c) \$20.00
- (d) \$21.69
- (e) None of these

$x = \text{selling price}$   
 $\text{profit} = 0.30x$   
 $\text{selling price} = \text{cost} + \text{profit}$   
 $x = 9.80 + 0.30x$   
 $0.70x = 9.80$        $x = \underline{\underline{\$14}}$

2. When the price of a product is  $p$  dollars each, suppose that a manufacturer will supply  $3p^2 - 4p$  units of the product to the market and that consumers will demand to buy  $24 - p^2$  units. At the value of  $p$  for which supply equals demand, the market is said to be in equilibrium. Find this value of  $p$ .

- (a) \$3.00
- (b) \$42.00
- (c) \$24.00
- (d) \$2.00
- (e) None of these

$3p^2 - 4p = 24 - p^2$   
 $4p^2 - 4p - 24 = 0$   
 $p^2 - p - 6 = 0$   
 $(p - 3)(p + 2) = 0$   
 ~~$p = -2$~~        $p = \underline{\underline{\$3.00}}$

3. Due to recent safety violations at a local mine, coal miners went on strike for 42 days. Before the strike, these miners earned \$18.00 per hour and worked 260 eight-hour days a year. Approximately what percentage increase is needed in yearly income to make up for the lost time within 1 year?

- (a) 10%
- (b) 16%
- (c) 19%
- (d) 25%
- (e) None of these

$\frac{42 \times 8 \times 18}{260 \times 8 \times 18} \approx 16\%$