

Instructions: Show all work to receive full credit. You should note any formulas used or calculator functions used, their inputs and outputs. I cannot grade work if I don't know where an answer came from. Be sure complete all parts of each questions, including requests for interpretation and explanations. Be as thorough as possible.

1. A salesperson receives a base salary of \$35,000 and commission based on sales x of 8%. Write a linear equation that describes the salesperson's total pay y . Use that equation to predict their income if they make sales of \$250,000.

$$y = 35,000 + .08x$$

$$y = 35,000 + .08(250,000)$$

$$= 55,000$$

2. A shirt is on sale for \$15.00 and has been marked down 35%. How much was the shirt being sold for before the sale?

$$x - .35x = 15.00$$

$$\frac{.65x}{.65} = \frac{15.00}{.65}$$

$$x = \$23.08$$

3. For $y = x^2 + 2x - 3$ find the value for y when $x = -2$ and $x = 5$.

$$y = (-2)^2 + 2(-2) - 3 = 4 - 4 - 3 = -3$$

$$y = (5)^2 + 2(5) - 3 = 25 + 10 - 3 = 35 - 3 = 32$$

4. Solve the equation $2x + 5y = 18$ for y .

$$\frac{18 - 2x}{5} = \frac{5y}{5}$$

$$y = -\frac{2}{5}x + \frac{18}{5}$$