

Answer on Question #44972 – Math - Algebra

Problem.

Sara owns a bakery. She sells birthday cakes and needs to know how many cakes are to be sold each week to make the cost and labor even. By graphing she can easily and quickly tell if she is even, above or below. If Sara sells each cake costs \$20 to make and she pays \$32 for labor, how many cakes does Sara need to sell at \$35?

I need an equation, to solve the equation, and I have to graph it

Solution.

Suppose that Sara needs to sell x , then variable expenses equal $20x$ dollars ($x \times \$20$) and fixed expenses equal \$32. Therefore expenses equal $20x + 32$ dollars. The total revenue equals $35x$ dollars ($x \times \$35$). Hence

$$20x + 32 = 35x.$$

$$32 = 35x - 20x, \quad 15x = 32, \quad x = \frac{32}{15}.$$

$$\text{Therefore } x = 2\frac{2}{15}.$$

