

Write a system of linear equations to represent the “break-even point” for a business. Then, graph the system of equations. Use the graph to estimate the break-even point. Then, calculate the exact break-even point algebraically. Round to the 100th place. Explain what the break-even point represents with respect to each business.

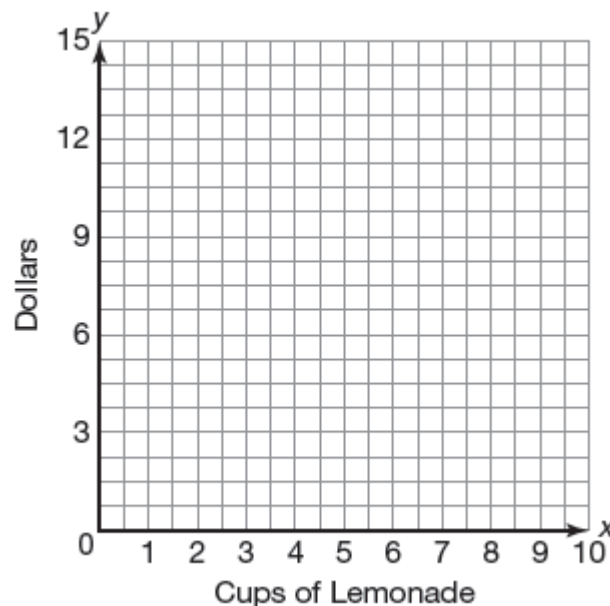
- Jayla sets up a lemonade stand in front of her house. Each cup of lemonade costs \$0.30 to make. She spends \$6 on the advertising signs she puts up around the neighborhood. She sells each cup of lemonade for \$1.50.

Income equation:

Expense equation:

Break-Even Point estimate (graphically):

Break-Even Point exact (algebraically):



What does the break-even point represent?

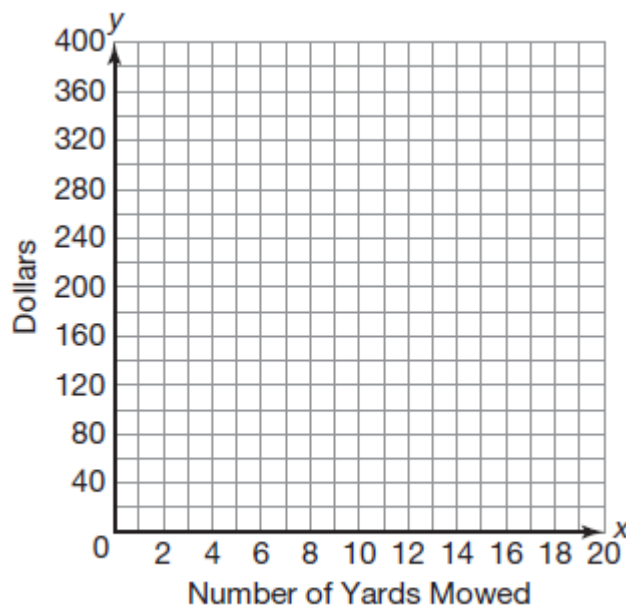
- Gabe starts his own lawn mowing business. He spends \$180 on a new lawnmower. For each yard he mows, he receives \$20, but spends \$4 on gas.

Income equation:

Expense equation:

Break-Even Point estimate:

Break-Even Point exact:



What does the break-even point represent?

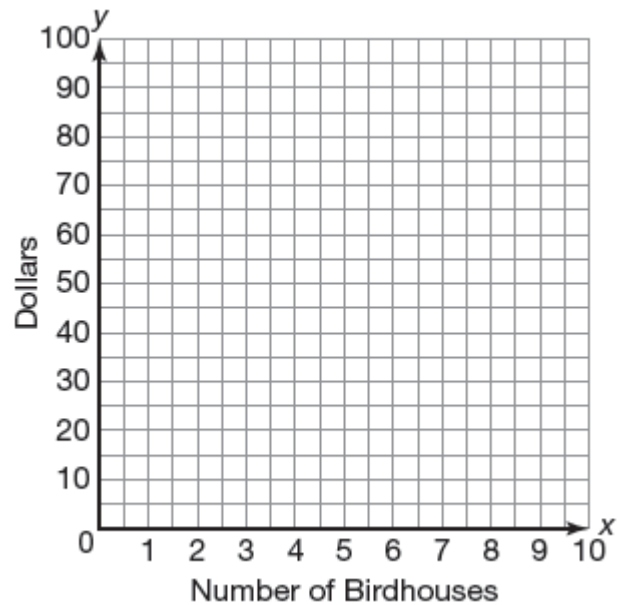
3. Merari is building birdhouses to raise money for a trip to Hawaii. She spends \$30 on the tools needed to build the houses. The material to build each birdhouse costs \$3.25. Merari sells each birdhouse for \$10.

Income equation:

Expense equation:

Break-Even Point estimate:

Break-Even Point exact:



What does the break-even point represent?

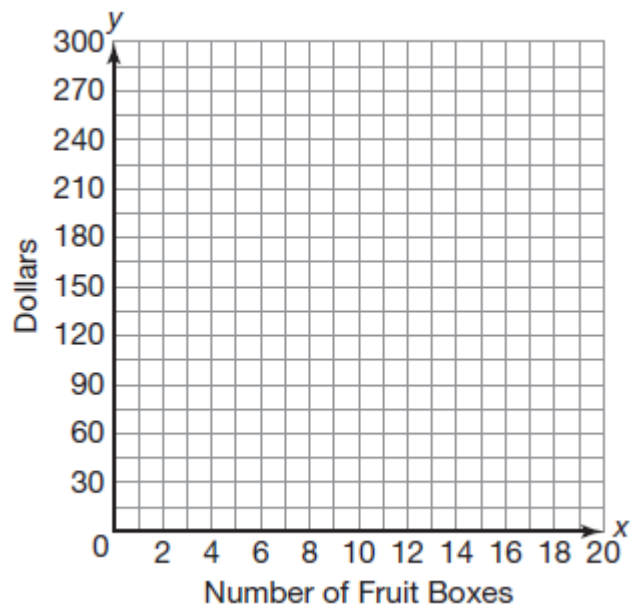
4. The Spanish Club is selling boxes of fruit as a fundraiser. The fruit company charges the Spanish Club \$7.50 for each box of fruit and a shipping and handling fee of \$100 for the entire order. The Spanish Club sells each box of fruit for \$15.

Income equation:

Expense equation:

Break-Even Point estimate:

Break-Even Point exact:



What does the break-even point represent?