Systems of Linear Equations: Word Problems

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Use systems of linear equations to solve each word problem.

1. Michael buys two bags of chips and three boxes of pretzels for $5.13. He then buys another bag of chips and two more boxes of pretzels for $3.09. Find the cost of each bag of chips and each box of pretzels.

2. At a restaurant four people order fried crab claws and four people order a cup of gumbo, with a total bill of $31. If only two people had ordered the crab claws and one person ordered the gumbo, the bill would have been $12.25. How much is each order of fried crab claws and each cup of gumbo?

3. A boat goes 32 miles downstream in two hours. The return trip against the current takes sixteen hours. Find the rate of the boat in calm water and the rate of the current.

4. A canoeist travels 30 miles downstream in three hours. Against the current the return trip took fifteen hours. Find the rate of the canoeist in calm water and the rate of the current.

5. With the wind a cyclist rode 24 miles in three hours. She returned in twelve hours against the wind. Find the rate of the cyclist without wind and the rate of the wind.

6. It takes three hours for a boat to go 18 miles downstream, and nine hours to return. What is the rate of the boat in calm water and the rate of the current?

Answers

1. $.99 for a bag of chips; $1.05 for a box of pretzels

2. $4.50 for an order of crab claws; $3.25 for a cup of gumbo

3. rate of boat in calm water: 9 mph rate of the current: 7 mph

4. rate of canoeist in calm water: 6 mph rate of the current: 4 mph

5. rate of cyclist without wind: 5 mph rate of the wind: 3 mph

6. rate of boat in calm water: 4 mph rate of the current: 2 mph

Please visit the Learning Lab for further assistance.