

This has been revised.

Name \_\_\_\_\_ Teacher \_\_\_\_\_ Date \_\_\_\_\_

## Pre-Season Football

Jim and Bob are getting ready for football season. Jim was sick in the spring and will need to gain weight to reach his playing weight. Bob has been eating too much and exercising too little. He will need to lose weight to get in shape. Trainer Sue has weighed both players and developed ideal plans for each man to follow.

**Jim**

Starting weight: 150 lbs.

Weight gain 1.5 lbs every two weeks.**Bob**

Starting weight: 205 lbs.

Weight loss 2.0 lbs per week

1. Write two equations, one for Bob's weight gain and one for Jim's weight loss, that could be used to determine each person's weight each week as they gain or lose weight according to Sue's plan. Use the variables described below.

$x$  is the number of weeks each player has followed Trainer Sue's plan

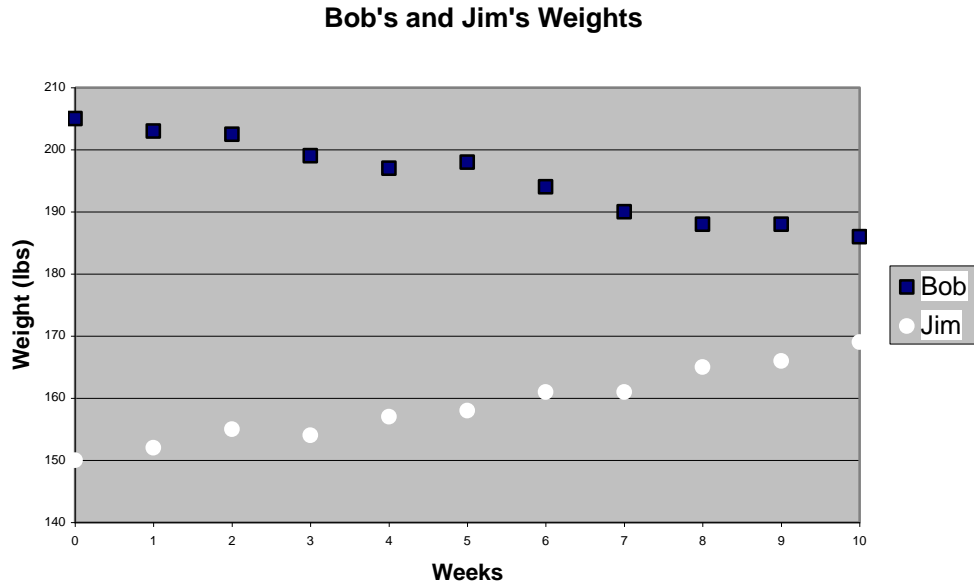
$y$  is the weight of each player

Jim: \_\_\_\_\_

Bob: \_\_\_\_\_

2. Football season starts in 10 weeks. If Jim and Bob stick to Trainer Sue's plan, how much should each student weigh?
  
  
  
  
  
  
  
  
  
  
3. Use your equation to determine how many weeks will it take for Jim to weigh 170 pounds if he follows Trainer Sue's plan?

Here is a scatter plot that shows Bob's and Jim's actual weight over a 10 week period.



4. Write a statement that compares Bob's actual weight loss to the weight loss plan shown in your equation Use specific data in your statement from the graph and numbers from your equation in problem #1.

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5. Write a statement that compares Jim’s actual weight gain to the weight gain plan shown in your equation. Use specific data in your statement from the graph and numbers from your equation in problem #1.

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6. Each player continued to follow Sue’s plan during the school year. Bob lost weight and Jim gained weight. Will Bob and Jim every weigh the same amount? If so, what would be that weight? Show your work using words, numbers, and/or diagrams.

