Complete all of the following problems by MODELING.

1. Jim and John are twins are just celebrated their 10th birthday. Their grandparents gave them both the same amount of money as a gift.

   a. Jim is going to spend $15 on the movies, buy 12 baseball cards and save $17. If $b =$the cost of each baseball card, write an expression that represents how Jim will spend his money.

   b. John is going to spend $38 on a new backpack and buy 8 baseball cards, but that leaves $0 left over to save. If $b =$the cost of each baseball card, write an expression that represents how John will spend his money.

   c. Since Jim and John’s grandparents gave them both the same amount of money, describe what you can do with the two expressions you wrote:

   d. Write an equation that can be used to determine the cost of each baseball card.

   e. Solve your equation and state the cost of each baseball card in a full sentence.

   f. Use your answer to determine the amount of money that each boy was given for their birthday.

   g. If the boys decide to combine their money and go the amusement park instead, they can each pay the $30 park entrance fee, spend $20 on snacks and play five games. If $x =$ the cost of a game, write an equation that can be used to represents this situation.

   h. Solve your equation from part g and state the cost of a game at the amusement park in a full sentence.
2. Kim has a lot of work to do for her classes but she is only going to do some of it tonight. She can spend 20 minutes doing math homework, 10 minutes reviewing science and do 5 power speak assignments. Or she can spend 50 minutes writing an English essay, do 2 power speak assignments and have 7 extra minutes to look over her science.

   a. Define a variable that represents the unknown in this situation. ______________________________

   b. Write an equation, with a variable on each side of the equals sign, that represents Kim’s homework.

      ______________________________ = ______________________________

   c. Solve your equation and state how long does it take her to do each power speak assignment in a full sentence.

   d. Use your answer from part c to determine how many minutes in total will Kim be spending on her homework?

Write an equation that models each of the following situations. Solve your equation and answer the question in a full sentence.

3. The sum of three consecutive odd integers is 57. What is the value of the largest number?

4. Mrs. Mills baked 6 batches of cookies. She gave 15 cookies away to her neighbor and had 45 cookies left to take to school. How many cookies are in each batch?

5. Kate gets paid $10 an hour at her job. She also receives $25 a week from her parents. If she made a total of $145 dollars last week, how many hours did she work?

6. The sum of four consecutive even integers is 60. What are the middle two numbers?