More Modeling Worksheet   Name:_____

Complete all of the following problems by MODELING.   You must (1) define a variable (2) write an equation (3) solve the equation (4) answer the question in a full sentence.

1. 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 powerspeak assignments. Or she can spend 50 minutes writing an English essay, do 2 powerspeak assignments and have 7 extra minutes to look over her science.

    How long does it take her to do each power speak assignment?

    How many minutes in total will Kim be spending on her homework?

2. Juan has to decide how to spend his birthday money. He has come up with two options: he can buy a new pair of sneakers for $110, go out with his friends five times and have $40 left over to save OR he can buy a new phone for $200, go out with his friends twice and have $10 left over to save.

    How much money does he spend each time he goes out with his friends?

    How much money did Juan get for his Birthday?

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

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. Lili is baking cupcakes for her friend's birthday. She needs to give a cupcake to each of the 27 guests. She makes 3 batches of cupcakes and eats 6 cupcakes before the party. How many cupcakes are in each batch?

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?

1) $\dfrac{1}{2} = \dfrac{5}{2} + 6x$

2) $20 + 4k = 1 - 5(1 + 4k)$

3) $\dfrac{3}{4} = \dfrac{x+2}{x}$

4) $5 = 3 + \dfrac{n}{2}$

5) Solve for a:

$3a + 2b = 5b + 10$

6) Solve for z:

$\dfrac{x+3}{5} = \dfrac{-2z+1}{3}$