

Turn in one paper per group but be sure all members of the group have seen the final answers. Circle your name if the paper that gets turned in is your copy.

The following are selected questions (numbers copied from book) from Set II of the exercise set.

11. The length of anchor line needed by a boat is a function of the depth of the water. [Below is a table of various values for this relationship.] What is the missing number in the table?

Depth of water in feet, x	10	20	30	40	50
Length of line in feet, y	70	140	210	280	

12. How can this number be found from the previous y -number, 280?

13. How can the y -numbers in the table be found from the corresponding x -numbers? [Write this relationship in words, not algebra.]

14. What is the formula for this function? [Now, we want the algebra.]

15. According to an experimental study, the lifespan of a hamster is a function of the time the hamster spent hibernating. A formula for this function is $y = 18x + 660$ [where x represents the percent of the hamster's life he spent hibernating and y represents the expected lifespan in days]. Use the formula to find the missing numbers in the table.

Percent of lifetime spent hibernating, x	0	10	20	30
Expected lifespan in days, y				

16. What kind of number sequence do the y -numbers form?

17. If the percent of its lifetime that a hamster spends in hibernation increases by 10%, by how many days does its expected lifespan increase?

The following are selected questions (numbers copied from book) from Set III of the exercise set.

1. If you could jump as high as you wanted, the time you would be in the air would be a function of the height to which you jumped. [Below is a table of values for this relationship.] What kind of numbers are the x -numbers in the table?

Height of jump in feet, x	1	4		16	25
Time in air in seconds, y	0.5	1	1.5	2	

2. What kind of sequence do the y -numbers form? [What is the common difference or ratio?]

3. [Use the patterns to fill in] the missing numbers in the table.

4. Can you think of a way to get each y -number from the corresponding x -number? If so, what is it? [In other words, give the algebraic equation in the form " $y = \dots$ " that would help us calculate each y value given an x value.]