DISCRETE RANDOM VARIABLES: PRACTICE 1; DISCRETE DISTRIBUTIONS

STUDENT LEARNING OUTCOMES:

- THE STUDENTS WILL PRACTICE CONSTRUCTING DISCRETE DISTRIBUTIONS

GIVEN:

A ballet instructor is interested in knowing what percent of each year's class will continue on to the next, so that she can plan what classes to offer. Over the years, she has established the following probability distribution.

Let X = the number of years a student will study ballet with the teacher.

Let P(X = x) = the probability that a student will study ballet that many years.

ORGANIZE THE DATA

Complete the table below using the data provided.

x	P(X=x)	X*P(X=x)
1	0.10	
2	0.05	
3	0.10	
4		
5	0.30	
6	0.20	
7	0.10	

1. In words, define the Random Variable X.

2. P(X = 4) = _____

3. P(X < 4) = _____

4. On average, how many years would you expect a child to study ballet with this teacher?

DISCUSSION QUESTIONS

5. What does the column "P(X = x)" sum to? Why?

6. What does the column "x*P(X = x)" sum to? Why?