

6.1 Discrete & Continuous Random Variables

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The screenshot shows a statistics quiz interface. At the top, there's a navigation bar with a bell icon, a search bar, and the user's name "Michael Brodskiy". Below this, a breadcrumb trail reads: "Statistics AP-Thompson-Year-12462 (66479) > Activities and Due Dates > 6.1 Discrete and continuous random variables".

The main content area is divided into three sections:

- Left Sidebar:** A list of 21 questions. Questions 1-18 are marked "Correct" with a green bar and "100%". Question 19 is marked "Correct" with a green bar and "95%".
- Center Panel:** Displays "Question 1 of 21". The question text is: "In an experiment on the behavior of young children, each subject is placed in an area with five toys. Past experiments have shown that the probability distribution of the number X of toys played with by a randomly selected subject is as appears in the given table."
- Table:** A probability distribution table for the number of toys x_i (0 to 5) and their corresponding probabilities P_i .
- Right Panel:** A multiple-choice question asking for the probability that a child plays with 5 toys, expressed in terms of X .

The table data is as follows:

Number of toys x_i	0	1	2	3	4	5
Probability P_i	0.03	0.16	0.30	0.23	0.17	???

The multiple-choice question asks: "Which of the following expresses the event 'child plays with 5 toys' in terms of X and gives the correct probability?"

- ☐ $P(X < 5) = 0.89$
- ☐ $P(X = 5) = 0.89$
- ☐ $P(X = 5) = 1$
- ☐ $P(X < 5) = 0.11$
- ☒ $P(X = 5) = 0.11$

At the bottom of the center panel, a green bar indicates "Solved".