DoNow practice for familiarity and speed Name:

Work these problems rapidly on lined paper, developing a standard method (skip those you don't know how to start)

Expected value given table (fair)

1. Given the following probability distribution, with $E(x) = 2.5$

x	0	1	2	4
P(x)	p	0.3	0.1	q

   (a) Find the value of p

   (b) Find the value of q

Calculus operations with given values

2. Given $f(2) = 2$, $g(2) = -2$, $f'(2) = -1$, and $g'(2) = 3$

   (a) Find the derivative of $f + g$

   (b) Find the derivative of $f \times g$

   (c) Find the derivative of $f \div g$

Integration w calculator

3. Given the bivariate data shown in the table below, perform a linear regression with $y = ax + b$.

x	98	112	140	150
y	54	59	78	81

   (a) Write down, a, b, r, and characterize r.

   (b) Using the fitted linear model find y for $x = 142$.

4. Two events A and B are such that $P(A) = 0.2$ and $P(A \cup B) = 0.5$.

   (a) Given that A and B are mutually exclusive, find $P(B)$.

   (b) Given that A and B are independent, find $P(B)$.

Binomial distribution

5. operations with complements, i.e. $1 - B_{CDF}(10, 8, 0.25) = B_{CDF}(10, 1, 0.75)$