

Binomial and Geometric Probability Worksheet

Directions: Use proper probability notation as you solve the following problems:

1. On the SAT, there are five answer choices (A, B, C, D, and E). The probability of randomly guessing the correct answer is .2.
 - a) What is the probability that on a 25-question section of the SAT by complete random guessing that exactly 8 questions will be answered correctly?
 - b) What is the probability that on a 25-question section of the SAT by complete random guessing that 6 or fewer questions will be answered correctly?
 - c) What is the probability that on a 25-question section of the SAT by complete random guessing that the first correctly guessed answered is the fourth?
 - d) What is the probability that on a 25-question section of the SAT by complete random guessing that the first correct answer will be within the first 6 guesses?
 - e) What is the expected number of correct guesses on a 25-question section of the SAT exam?

2. Major universities claim that 72% of their senior athletes graduate that year. Fifty senior athletic students attending major universities are randomly selected and recorded in order of selection.
 - a) What is the probability that exactly 40 senior athletic students graduate that year?
 - b) What is the probability that 40 or 41 or 42 senior athletic students graduated that year?
 - c) What is the probability that 40 or fewer senior athletic students graduated that year?
 - d) What is the probability that 41 or more senior athletic students graduated that year?
 - e) What is the probability that 40 or more senior athletic students graduated that year?
 - f) What is the probability that the first senior athletic student to graduate in the group of 50 that year is the 5th selected?
 - g) What is the probability that the first senior athletic student to graduate in the group of 50 that year is the 30th selected?
 - h) What is the probability that the first senior athletic student to graduate in the group of 50 that year is within the first 10 selected?
 - i) What is the expected number of senior athletic students to graduate that year?
 - j) What is the standard deviation of senior athletic students graduating that year?

3. Will Fumble is a receiver for the WHS football team whose likelihood of catching a pass of .15.
 - a) What is the probability that 2 passes are caught out of 6 passes?
 - b) What is the probability that no passes are caught out of 6 passes?
 - c) What is the probability that only 0 or 1 pass is caught out of 6 passes?
 - d) What is the probability that 2 or fewer passes are caught out of 6 passes?
 - e) What is the probability that more than 2 passes are caught out of 6 passes?
 - f) What is the probability that the first pass caught is on the 1st pass?
 - g) What is the probability that the first pass caught is on the 4th pass?
 - h) What is the probability that the first pass is caught within the first 3 attempts?
 - i) What is the probability that the first pass is caught after the first 3 attempts?
 - j) What is the expect number of catches with 6 attempts?
 - k) What is the expect number of attempts for the first pass caught?