

Place **ANSWERS ONLY** in the boxes.

A large vat contains blue and red eggs. 45% are blue, the others are red. 10% of the blue eggs are cracked. 15% of the red eggs are cracked. Find the following probabilities, round to four decimal places if necessary.

1) Find the probability that a randomly selected egg is cracked.

2) Find the probability that a randomly selected egg is blue, given that it is cracked.

3) Find the probability that a randomly selected egg is red, given that it is not cracked.

A small company makes ping pong balls. It has 3 inspectors; Jane, Anna, and Bob. Jane inspects 40% of the ping pong balls, Anna inspects 20%, and Bob inspects the rest. Jane rejects 3% of what she sees, Anna rejects 4%, and Bob rejects 7%. Find the following probabilities, round to four decimal places if necessary.

4) Find the probability that a randomly selected ball is not rejected.

5) Find the probability that a randomly selected ball was inspected by Anna, given that it was rejected.

6) Find the probability that a randomly selected ball wasn't inspected by Bob given that it wasn't rejected.

Each individual Martian egg that hatches has a 29% probability of being male. If 13 eggs hatch, then find the following; (Round to four decimal places if necessary.)

7) Find the probability that exactly 5 are male.

8) Find the probability that 9 or 10 are not male.

9) Find the probability that at least two are male.

Timmy takes a 20 question multiple choice test. Each problem has answers A, B, C and D. His answers are absolute guesses. (Round to four decimal places if necessary.)

10) Find the probability that he gets exactly 8 questions correct.

11) Find the probability that he gets at least 70%, but no more than 80% questions correct.