Question 1

Suppose that three distinct coins, labeled A, B and C, are tossed. Each can return heads (H) or tails (T). The coins are tossed in the order: A first, B second and C last.

How many possible events, that describe the outcomes of the coin tosses, are there?

1. Two
2. Three
3. Four
4. Six
5. Eight
6. More than eight.

Question 2

Suppose that three distinct coins, labeled A, B and C, are tossed. The probability of heads for each coin is $1/2$. Consider the following possible outcomes.

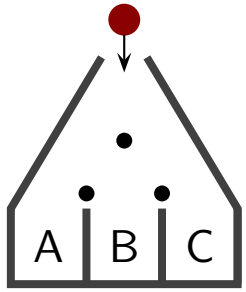
Case (Event)	A	B	C
1	H	H	H
2	H	H	T
3	H	T	H
4	T	T	T

Let p_i denote the outcome (of all three tosses) of event i. Which of the following is true?

1. $p_1 = p_2 = p_3 = p_4$
2. $p_1 = p_4 < p_2 = p_3$
3. $p_1 = p_4 < p_2 < p_3$
4. $p_1 = p_4 < p_3 < p_2$
5. $p_2 = p_3 < p_1 = p_4$

Question 3

A Galton board consists of a series of pegs and slots arranged as illustrated. A ball is dropped into the arrangement and falls toward the first peg. It can bounce left or right with equal probability and then encounters the next peg down. It arrives in one of several slots. A two level Galton board is as illustrated.

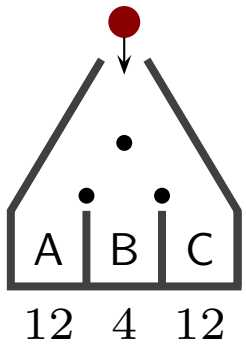


Which of the following are the probabilities with which the ball can arrive at the slots?

1. $p_A = p_B = p_C = \frac{1}{3}$
2. $p_A = p_B = p_C = \frac{1}{4}$
3. $p_A = p_C = \frac{1}{9}$ and $p_B = \frac{1}{3}$
4. $p_A = p_C = \frac{1}{3}$ and $p_B = \frac{1}{2}$
5. $p_A = p_C = \frac{1}{4}$ and $p_B = \frac{1}{2}$

Question 4

A two level Galton board is as illustrated. A payout, q, is indicated beneath each slot.



Which of the following is the mean payout?

1. $\overline{q} = 4$
2. $\overline{q} = 6$
3. $\overline{q} = 8$
4. $\overline{q} = 9$
5. $\overline{q} = 10$