

1. The following table correspond to Rodger's touch-down passes career regular season statistics for the games he started through the 2012 season.

| x | $P(X = x)$ |
|-----|------------|
| 0 | 0.10 |
| 1 | 0.25 |
| 2 | 0.25 |
| 3 | 0.25 |
| 4 | 0.10 |
| 5 | 0.05 |

- (a) (4 points) Compute the expected number of touch-down passes.
- (b) (4 points) Compute the median number of touch-down passes.
- (c) (4 points) What can you conclude about the distribution of Rodger's touch-down passes?
2. Lionel Messi is one of the most popular athletes in the world. He spend 21 years playing for Barcelona FC. Let B denote the event that Barcelona wins a home match. Let M denote the event the Messi scores 2 or more goals in a home game. We have that

$$P(B) = 0.65 \quad P(B \cap M) = 0.35 \quad P(M) = 0.45$$

- (a) (4 points) Compute $P(B|M)$.
- (b) (4 points) Compute $P(M|B)$.