

IB Practice Questions - Probability

CW # 3-2a

Name: _____

Score: _____

1. [Maximum mark: 5]

Let A and B be events such that $P(A) = 0.5$, $P(B) = 0.4$ and $P(A \cup B) = 0.6$.

Find $P(A|B)$.

2. [Maximum mark: 5]

Events A and B are such that $P(A) = 0.4$, $P(A|B) = 0.25$ and $P(A \cup B) = 0.55$.

Find $P(B)$.

[Maximum mark: 6]

Let A and B be two independent events such that $P(A \cap B^c) = 0.16$ and $P(A^c \cap B) = 0.36$.

(a) Given that $P(A \cap B) = x$, find the value of x . [4]

(b) Find $P(A^c | B^c)$. [2]

[Maximum mark: 6]

Events A and B are independent and $P(A) = 3P(B)$.

Given that $P(A \cup B) = 0.68$, find $P(B)$.

[6]



[Maximum mark: 5]

Box 1 contains 5 red balls and 2 white balls.

Box 2 contains 4 red balls and 3 white balls.

(a) A box is chosen at random and a ball is drawn. Find the probability that the ball is red. [3]

(b) Let A be the event that "box 1 is chosen" and let R be the event that "a red ball is drawn".

Determine whether events A and R are independent. [2]

[Maximum mark: 8]

At a school, 70% of the students play a sport and 20% of the students are involved in theatre. 18% of the students do neither activity.

A student is selected at random.

- (a) Find the probability that the student plays a sport and is involved in theatre. [2]
- (b) Find the probability that the student is involved in theatre, but does not play a sport. [2]
- (c) Find $P(G \cap T)$. [2]
- (d) Determine if the events G and T are independent. Justify your answer. [2]

