

AQA – Probability – AS Mathematics P2**1. June/2021/Paper_7356/2/No.17**

The number of toilets in each of a random sample of 200 properties from a town was recorded.

Four types of properties were included: terraced, semi-detached, detached and apartment.

The data is summarised in the table below.

	Number of toilets		
	One	Two	Three
Terraced	20	10	4
Semi-Detached	18	50	16
Detached	12	10	8
Apartment	22	30	0

One of the properties is selected at random.

A is the event 'the property has exactly two toilets'.

B is the event 'the property is detached'.

(a) (i) Find $P(A)$.

[1 mark]

(a) (ii) Find $P(A' \cap B)$.

[1 mark]

(a) (iii) Find $P(A \cup B)$.

[2 marks]

(b) Determine whether events A and B are independent.

Fully justify your answer.

[2 marks]

(c) Using the table, write down two events, **other than event A and event B** , which are mutually exclusive.

[1 mark]

Event 1 _____

Event 2 _____