# F06-10min Crude Rate and Rates of Change: 10-minute Pack

Total Marks

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

**Answer ALL questions. Show all your working.**

**1** The crude death rate is calculated in a similar way to the crude birth rate:

Crude death rate = (number of deaths / total population) x 1000

Millbrook has a population of 45,000. In 2025, there were 405 deaths recorded in Millbrook.

**(a)** Calculate the crude death rate for Millbrook in 2025. **(2)**

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**(b)** Explain what a crude death rate of 9 per 1000 means for Millbrook. **(2)**

**(Total for Question 1 is 4 marks)**

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**2** For each statement about crude rates, write down whether it is True or False.

**(i)** A crude rate takes into account the age structure of the population. **(1)**

**(ii)** Multiplying by 1000 in the crude rate formula means the rate is expressed as the number of events per 1000 people. **(1)**

**(iii)** Crude rates allow fair comparisons to be made between populations of different sizes. **(1)**

**(Total for Question 2 is 3 marks)**

**3** A town has a population of 25,000 and recorded 300 live births in a year. Work out the crude birth rate.

**(Total for Question 3 is 1 mark)**

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**4** A town's population grew by 8% from 2020 to 2024, when the population was 21,600. Work out the population in 2020.

**(Total for Question 4 is 2 marks)**

# Mark scheme · F06-10min Crude Rate and Rates of Change: 10-minute Pack

## Question 1

- (a) **M1** 405 / 45000 (= 0.009), oe
- (a) **A1** 9 (per 1000) cao
- **(a) Answer: 9 per 1000**
- (b) **B1** identifies that, on average, 9 people out of every 1000 in Millbrook's population die that year, oe
- (b) **B1** links the rate to the size of the population, not just a raw count of deaths, oe
- **(b) Answer: On average, about 9 people die per 1000 of Millbrook's population each year.**

## Question 2

- (i) **B1** False cao
- **(i) Answer: False**
- (ii) **B1** True cao
- **(ii) Answer: True**
- (iii) **B1** True cao
- **(iii) Answer: True**

## Question 3

- **B1** 12 (per 1000) cao
- **Answer: 12 per 1000**

## Question 4

- **M1** 21600 / 1.08, oe
- **A1** 20000 cao
- **Answer: 20,000**