FOUNDATION

F03-10min Risk (Foundation): 10-minute Pack

Total Marks

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A weather forecaster says the risk of snow tomorrow is 1 in 20. Write down this risk as a percentage.

(Total for Question 1 is 1 mark)

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2 A theme park ride has a risk of a technical fault stated as 1 in 200 rides.

(a) Out of 1000 rides, work out how many would be expected to have a technical fault, based on this risk. **(2)**

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(b) Out of 5000 rides, work out how many would be expected to have a technical fault. **(2)**

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(Total for Question 2 is 4 marks)

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3 Two smoke alarms state their risk of failure over 10 years:
Alarm P: risk = 1 in 40
Alarm Q: risk = 3%
Write down which alarm has the higher risk of failure, showing your reasoning.

(Total for Question 3 is 2 marks)

4 Two towns are compared during a norovirus outbreak. Both towns have the same risk of a resident being affected: 1 in 60. Town G has a population of 18,000 and Town H has a population of 42,000. Work out the expected number of people affected in each town, and explain why a newspaper claim that 'Town H is more dangerous because more people were affected there' is misleading, given that both towns share the same risk.

(Total for Question 4 is 4 marks)

Mark scheme · F03-10min Risk (Foundation): 10-minute Pack

Question 1

- **B1** 5% cao
- **Answer: 5%**

Question 2

- (a) **M1** 1000 divided by 200, oe
- (a) **A1** 5 cao
- **(a) Answer: 5**
- (b) **M1** 5000 divided by 200, oe
- (b) **A1** 25 cao
- **(b) Answer: 25**

Question 3

- **M1** converts 1 in 40 to 2.5% (or converts 3% to an equivalent 'x in y' form) oe
- **A1** Alarm Q cao
- **Answer: Alarm Q has the higher risk.**

Question 4

- **B1** Town G = 300 cao
- **B1** Town H = 700 cao
- **B1** explains both towns share the same risk per resident, so an individual is equally likely to be affected in either town oe
- **B1** explains the raw count differs only because Town H has a larger population, not because it is more dangerous oe
- **Answer: Town G = 300 people, Town H = 700 people affected. The claim is misleading because both towns share the same 1 in 60 risk per resident, so a resident is equally likely to be affected in either town; the higher raw count in Town H is simply because it has a larger population, not because it is more dangerous.**