



F05-10min Percentiles: 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Write down the percentile that corresponds to the lower quartile, Q1.

(Total for Question 1 is 1 mark)

- 2** There are 16 values in an ordered list. Work out the position of the 25th percentile.

(Total for Question 2 is 1 mark)

- 3** The table shows some measures used to summarise a set of data. Complete the table by writing the missing quartile name or the missing percentile in each gap.

Measure	Percentile
Lower quartile (Q1)	?
?	50th percentile
Upper quartile (Q3)	?

(Total for Question 3 is 3 marks)

- 4** The scores, out of 30, of 9 students in a test, listed in order, are:
10, 12, 14, 16, 18, 20, 22, 25, 28
Find the 40th percentile of the scores.

(Total for Question 4 is 2 marks)

- 5** Two athletes, Amara and Ben, recorded their times, in seconds, for their last 8 sprints. The times are listed below, in order.

Amara: 11.8, 11.9, 12.0, 12.2, 12.3, 12.5, 12.6, 12.9

Ben: 11.5, 11.7, 12.1, 12.4, 12.5, 12.8, 13.0, 13.4

- (a)** Find the median (the 50th percentile) of each athlete's sprint times. (2)

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- (b)** The interquartile range of Amara's times is 0.6 seconds and Ben's is 1.0 seconds. (2)
Using this, together with your answer to part (a), compare the two athletes' sprint times. Give TWO comparisons.

(Total for Question 5 is 4 marks)

Mark scheme · F05-10min Percentiles: 10-minute Pack

Question 1

- **B1** 25th (percentile) cao
- **Answer: 25th percentile**

Question 2

- **B1** 4 cao
- **Answer: 4**

Question 3

- **B1** 25th (percentile)
- **B1** Median
- **B1** 75th (percentile)
- **Answer: Lower quartile = 25th percentile; Median = 50th percentile; Upper quartile = 75th percentile.**

Question 4

- **M1** position = $0.4 \times 9 = 3.6$, round up to 4
- **A1** 16 cao
- **Answer: 16**

Question 5

- (a) **B1** Amara median = 12.25 cao
- (a) **B1** Ben median = 12.45 cao
- (a) **Answer: Amara: 12.25 s; Ben: 12.45 s**
- (b) **B1** Amara has a lower median time (12.25 s) than Ben (12.45 s), so Amara tends to sprint faster (oe)
- (b) **B1** Amara has a smaller interquartile range (0.6 s) than Ben (1.0 s), so Amara's times are more consistent / less variable (oe)
- (b) **Answer: Amara is typically faster (lower median) and more consistent (smaller IQR) than Ben.**