HIGHER

H04-10min Standard Deviation: 10-minute Pack

Total Marks

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 For each statement about standard deviation, write down whether it is True or False.

(i) The standard deviation of a data set can never be negative. **(1)**

.....

(ii) If every value in a data set is identical, the standard deviation is 0. **(1)**

.....

(iii) A data set with a larger standard deviation always has a larger mean than a data set with a smaller standard deviation. **(1)**

.....

(iv) The standard deviation of a data set is measured in the same units as the original data. **(1)**

.....

(Total for Question 1 is 4 marks)

2 5 friends compare how many text messages they sent yesterday:

8, 12, 10, 14, 6

An equivalent formula for standard deviation is:

standard deviation = $\sqrt{\text{sum of } x^2 / n - \text{mean}^2}$

(a) Show that the sum of x^2 for this data set is 540. **(2)**

(b) Write down the mean number of texts sent. **(1)**

.....

(c) Using the formula above, calculate the standard deviation of the number of texts sent, giving your answer correct to 3 significant figures. **(2)**

.....

(Total for Question 2 is 5 marks)

Mark scheme · H04-10min Standard Deviation: 10-minute Pack

Question 1

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

Question 2

- (a) **M1** 64, 144, 100, 196, 36, oe (correct squares of each value)
- (a) **A1** 540 cso
- **(a) Answer: 540**
- (b) **B1** 10 cao
- **(b) Answer: 10**
- (c) **M1** 540/5 - 10^2 (=108-100=8), oe
- (c) **A1** 2.83 (awrt)
- **(c) Answer: 2.83 (texts)**