**In Class**

**Statistics Lesson 7: Standard Deviation and Variance**

Explore:

Ex. 1

Given the following data

|  |  |
| --- | --- |
| *Score* | *Frequency* |
| 111213141516171819 | 345289586 |

1. Find the standard deviation.
2. Find the variance.

**Ex. 2**

 The times taken for 2000 men to complete a task were grouped as shown in the table below.

|  |  |
| --- | --- |
| **Time** | **Frequency** |
| 5 ≤ *t* < 10 | 500 |
| 10 ≤ *t* < 15 | 850 |
| 15 ≤ *t* < 20 | 500 |
| 20 ≤ *t* < 25 | 150 |

 (a) Use your graphic display calculator to find an estimate of

(i) the mean time;

(ii) the standard deviation of the time.

 Everyone who performs the task in **less than** one standard deviation **below** the mean will receive a bonus. Pedro takes 9.5 seconds to perform the task.

(b) Does Pedro receive the bonus? Justify your answer.

**Ex. 3**



**Ex. 4**

