Solutions - Exercise 3

1 (a) mean = 15.14 standard deviation = 9.79
(b) mean = 11.67 standard deviation = 7.78
(c) mean = 10 standard deviation = 27

2 mean = 4 var = 40

3 st. dev. = 11.32 range = 39

4 (a) true (b) true (c) false
(d) true (e) false

5 (a) $ 73 400 (b) $ 44 000
(c) $ 13 566.13

6 $\sigma_A = 13.5, \quad \sigma_B = 13.7$. A is more consistent. Its standard deviation is smaller than that of B.

7 $\sigma_A = 32.9, \quad \sigma_B = 20.1$. B is more consistent. Its standard deviation is smaller than that of A.

8 (a) 6.64 (b) 2.58

9 (a) A pays out $ 89 365, B pays out $ 95 580, B pays more.
(b) $\sigma_B^2 = 121 > \sigma_A^2 = 100$, wages in Firm B are more variable.

10 (a) var. = 2.81
(b) (i) var. = 11.22 (ii) var. = 2.81

11 st dev = 189.49 var = 35 906.46 range = 742 mean = 435.09 median = 416 mode = none