

# Answers

## Chapter 1 Standard Deviation

### Basic Practice

1. (a) Mean = 9  
Standard deviation = 3.39
- (b) Mean = 21  
Standard deviation = 8.74
- (c) Mean =  $16\frac{1}{3}$   
Standard deviation = 14.8
- (d) Mean = 4  
Standard deviation = 10.8
- (e) Mean =  $7a$   
Standard deviation =  $\sqrt{\frac{32}{3}}a$
- (f) Mean =  $b + 3$   
Standard deviation = 6.52

2. (a) Mean =  $4\frac{2}{15}$   
Standard deviation = 1.15
- (b) Mean =  $9\frac{2}{3}$   
Standard deviation = 5.62
- (c) Mean = 27.5  
Standard deviation = 10.9
- (d) Mean = 100  
Standard deviation = 0.926
- (e) Mean = 4.35  
Standard deviation = 2.12
- (f) Mean = 10  
Standard deviation = 1.49
- (g) Mean = 46  
Standard deviation = 18
- (h) Mean = 12.64  
Standard deviation = 5.39

4. (a) 81      (b) 9.04

5. (a) 15  
(b) (i) 15  
(ii) 5.93

6. (a) 8.2      (b) 4.47

7. (a) 80      (b)  $54\frac{3}{8}$       (c) 10.6

8. (b) Set B  
(c) Standard deviation of numbers in data set A = 6  
Standard deviation of numbers in data set B = 11.3

9. (a) (i) Mean = 156 cm  
Standard deviation = 5.12 cm  
(ii) Mean = 152 cm  
Standard deviation = 6.87 cm
- (b) Group of boys  
(c) Group of girls

10. (a) (i) Mean = 3.2  
Standard deviation = 1.76  
(ii) Mean = 2.5  
Standard deviation = 1.88
- (b) Second test

### Further Practice

11. (a)  $249 \text{ cm}^3$       (b)  $5.83 \text{ cm}^3$       (c)  $\frac{1}{2}$
12. (a)  $14\frac{1}{4}$  years old      (b) 4.21 years old
13. (a)  $25\frac{1}{8}$       (b) 6487      (c)  $21\frac{3}{4}$       (d) 8.83
14. (a) 58.2 km/h  
(b) (i)  $17\ 399 \text{ km}^2/\text{h}^2$       (ii) 9.62 km/h  
(c) 57 km/h      (d) 8.79 km/h

15. (a) 17

Score ( $x$ )	Frequency
$0 < x \leq 10$	40
$10 < x \leq 20$	150
$20 < x \leq 30$	90
$30 < x \leq 40$	20

- (c) 18      (d) 7.81

16. (a) 2      (b) \$6.01

17. (a) Bishal      (b) Sasi      (c) Sasi

18. (a) (i) Mean = 50  
Standard deviation = 5.13  
(ii) Mean = 53  
Standard deviation = 4.31
- (b) (i) Final year holidays  
(c) Mid year holidays

19. (a) (i) Mean = \$8880  
Standard deviation = \$396.99  
(ii) Mean = \$10 440  
Standard deviation = \$1009.16
- (b) Hub contractors  
(c) Hub contractors