

**Exercise 3A:**

- (a) Discrete
- (b) Continuous
- (c) Continuous
- (d) Discrete
- (e) Discrete
- (f) Discrete

**Exercise 3B:**

1. 25

2.

(a) Cumulative Frequency: 12,28,50,58,73,93

(b)  $\frac{58}{93} = 79.5\%$ 

(c) 22

3.

(a) Cumulative Frequency: 10,24,46,61,81

(b)

i. 40,45,50,55,60,65,70

ii. 42.5,47.5,52.5,57.5,62.5,67.5

iii. 5 for all

4.

(a)

i. 0 and 3.5, 3.5 and 7.5, 7.5 and 11, 11 and no upper limit

ii. 1.5,5.5,9.5,no midpoint

iii. 3.5,4,3.5,no width

(b)  $\frac{3}{11} = 0.273$

## Exercise 3C:

1.

(a) Mean =  $\frac{25}{6} = 4.17$  , Median = 4, Mode = 4

(b) Mean =  $\frac{91}{9} = 10.1$  , Median = 12, Mode = 3

(c) Mean =  $\frac{306}{7} = 43.7$  , Median = 43, No mode

(d) Mean =  $\frac{1}{2}$  , Median = 0.5, Mode = 0

1. 38.73 mph

2.

(a)  $a > 12$  or  $a \geq 13$

(b) 7

(c) 14.72

3.

(a) 12

(b)  $\frac{24}{14} = 1.71$

4.

(a) 144.52

(b) 144.81

(c) Likely, given that 145-150 was the second most popular group and that mean and median guesses were close to 147.

5.

(a) 5.61

(b)  $89.8\text{cm}^2$

## Mixed Exercise

1.
  - (a)  $a + 6$
  - (b) 87.5
2.
  - (b)  $\frac{113}{7} = 16.143$
  - (c) 18.6 mph
  - (d) Mean and median will drop, mode will remain unchanged
3.
  - (a) The test is destructive.
  - (b)  $\frac{89}{14}$  weeks  $\approx 1068$  hours
  - (c) Some batteries may last less than 1060 hours.
4. 96
5.
  - (a) Opportunity sampling
  - (b) 10.56 hours
  - (c) 9 hours
6.
  - (a) Continuous – the data has been rounded to the nearest mph
  - (b) Mean = 63.75
  - (c) Median = 65.1
7.
  - (a) 42.6 years
  - (b) Sample only includes people who turned out to the election – non-voters would not be included.