HSC General Mathematics 2001
Quick Answers

Disclaimer

These answers are intended as a quick guide only. To save space there are no worked solutions or diagrams. For greater detail please refer to fully worked solutions.

Section 1

1	**C**
2	**A**
3	**D**
4	**B**
5	**A**
6	**D**
7	**D**
8	**A**
9	**C**
10	**B**
11	**C**
12	**C**
13	**D**
14	**C**
15	**C**
16	**B**
17	**D**
18	**B**
19	**B**
20	**C**
21	**A**
22	**B**

Section 2

Question 23

(a) (iii) There is a strong negative correlation.

(b) (i) Kim's score was 2 standard deviations below the mean.
(ii) 65

(c) (i) Eden Park, 18 m.
(ii) 7 m.
(iii) East Park's distribution of trees was positively skewed, but Central Park's was symmetrical. There was a greater range of heights in East Park, as well as a greater interquartile range. Half the trees in East Park were shorter than all the trees in Central Park.

Question 24

(a) (i) 87°.
(ii) 2547 m^2.
(iii) Approximately 101 metres.

(b) (i) 5 hours.
(ii) 70°N.
(iii) 7819 km (using Earth's radius) OR 7778 km (using 1 nm = 1.852 km)

(c) (i) 72 metres.
(ii) 478.125 m^2.

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Question 25

(a) (i) $\frac{3}{8}$

(ii) (2) $\frac{15}{28}$

(iii) Yes, she has a $\frac{3}{4}$ chance of remaining.

(b) (i) 16.
(ii) About 77 kg.
(iii) 96.
(iv) (1) This sample is biased towards students who arrive early. There could be a correlation between people who arrive early and weight (perhaps due to whether or not they have breakfast for instance).
(2) Many possible answers, such as: randomly select names out of a hat.

Question 26

(a) (i) 190.
(ii) 180, 100, 20.
(iv) No, because it gives a negative number of stalls rented.

(b) (i) (1) 200 – the price of a sufboard in January 2000.
(2) 20%.

(ii) (1) 2002.
(2) 120.
(3) $c = 10n$.

Question 27

(a) \$52.20

(b) \$21 924.26

(c) (i) Rosetta had been contributing for longer, so the early payments would compound more.
(ii) The difference will grow larger. Derek will have \$184 816.36 and Rosetta will have \$284 942.06. This is a difference of \$100 125.70, which is more than the current difference of \$84 576.

(d) (i) Because $\frac{6.24}{100} \div 12$ is 0.0052.
(ii) \$362.36, \$69 366.36.
(iii) (2) A reasonable value would be something bigger than 120 and less than 160.

Question 28

(a) (ii) 54 olives.
(iii) 16 olives.

(b) 4.8 minutes, or 4 minutes 48 seconds.

(c) (i) 2400 cm^2.
(ii) Individual boxes: $A = 2400N$.
Stack of boxes: $A = 600N + 1800$.

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