SECTION B

7 (a) 2 correct curves W3 W2 1 correct curve or 2 correct 'shapes' or 3 correct points joined in 2 quadrants
or W1 1 correct 'shape' or 3 correct points in 1 quad
(½, 2) (1, 1) (2, 0.5) (4, 0.25) (intent)

(b) $y=x+2$ drawn W1
0.4 and –2.4 W2 ft their graphs (W1 for (-2.4,0.4)
[6]

8 52 to 52.4% W5 W2 volume of balls 201.(...)
or M1 correct sub in formula 33. (...)
W1 vol cuboid 384 or 24x4x4 or eq
M1 201/384 or their 6 spheres/their cuboid (condone 1 sphere/their cuboid)
A1 52 to 52.4 SC4 47.6 to 48
[5]

9 (a) unequal intervals W1

(b) vert axis scaled W1 for histogram
calls/min W1 or frequency density
bars prop to
30,24,15,8,6 W1 4 correct, accept in table
bars correct W1 widths and all heights correct
[5]

10 $\frac{1}{279936}$ W2 M1 $(1/6)^7$ **or** 0.0000035.....
[2]

11 (a) 8.6 to 8.7 W2 M1 $BH^2= BF^2+FH^2$

(b) 35.1-35.5 W3 M2 $\sin x=0.577$ or 0.58 or $\sin^{-1}(BF/BH)$

or M1 $\sin x=BF/BH$ or eq
A1 35 or 35.1-35.5
SC1 54.5 to 54.9
[5]

12 SP+RQ=SA+AP+RC+CQ
SR+PQ=SD+DR+PB+BQ
SA=SD tangents equal etc.
(SP+RQ=SR+PQ) W2 W1 incomplete proof or omission of 'tangents equal or 2 parts of 'tangent statements
[2]

Total B 25