Plotting Quadratic and Cubic Graphs

Mark Scheme

1. (a) 5, -1   2
B1 for each correct answer

    (b)   2
B1 ft for all 7 points plotted correctly
B1 ft for smooth curve through 7 points (dep on B1 in (a))

    (c) −1.25   1
B1 ft ± ½ square – must have single minimum from a curve
through 6 points

    (d)   3
B1 for line y = 2x – 4 drawn correctly.
B1 + B1 ft (dep on line of gradient 2, or intercept of – 4) for
each correct answer.
Answers are 3.62 and 1.38
OR B1 $y = x^2 − 5x + 5$ seen and attempt to plot
B1 values (1, 1) (2, −1) (3, −1) (4, 1)
B1 ft for 2 solutions

[8]

2. (a) 36, 56, 48, 20   2
B2
(B1 for 2 or 3 correct)

    (b) graph   2
B1 ft (dep on B1 in(a)) points plotted correctly ± ½ sq (condone
1 error)
B1 smooth fully correct quadratic curve

    (c) 60.5   1
B1 for 62 ≤ ans < 60 from curve or calculation

[5]

3. (a) (− 12) − 4 − 2 (0) 8   3
B3 for all correct [(B1 for each one correct)

    (b) 5 points plotted accurately
points joined with smooth curve   2
B1 ± 1 full (2mm) square ft table if at least B1
awarded (all 5 points plotted)
B1 ft for any smooth curve if previous B1 gained
NB: curve must pass within 1 full square of the points

[5]

4. (a) 2.125, −1   1

        B1 for both values correct

    (b) Points plotted, correct graph   2

        B1 ft for at least 6 points correctly plotted ± ½ sq
        B1 for smooth curve drawn through at least 8 correct points

[3]