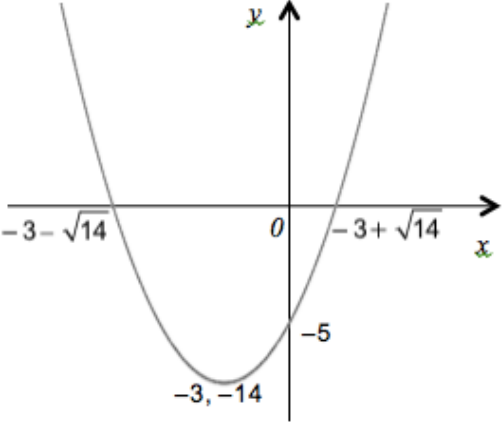


Topic Test 1 Mark Scheme

Linear and quadratic equations and their graphs - Higher

| Q | Answer | Mark | Comments |
|------|---|------|--|
| 1(a) | Straight line graph from $(-3, -5)$ to $(3, 7)$ | B2 | B1 for partial graph or B1 for at least 2 correct coordinates seen in table or on graph |
| 1(b) | Line from $y = 4$ and line from intersection to $x = 1.5$ | B1 | |
| 2 | $2x + 1 + 12 = 12(x - 1)$ | M1 | |
| | $10x = 25$ | M1 | |
| | 2.5 | A1 | |
| 3 | $3x - 5 + 2x + 20 + x + 15 = 180$ | M1 | |
| | $6x + 30 = 180$ | A1 | |
| | $x = 25$ | A1 | |
| | $3x - 5 = 70$ and $2x + 20 = 70$ and statement about equal angles in isosceles triangle | A1 | |
| 4 | Intercept = $(0, -1)$ Turning point = $(-1, -2)$ Negative root = $[-2.5, -2.4]$ Positive root = $[0.4, 0.5]$ | B3 | B2 3 correct B1 1 or 2 correct |
| 5(a) | $(-4, 0)$ and $(1, 0)$ | B1 | |
| 5(b) | $(-2\frac{1}{2}, -5\frac{1}{4})$ | B1 | |

| Q | Answer | Mark | Comments |
|------|--|------|--|
| 6(a) | $(x + 3)^2$ | M1 | |
| | $(x + 3)^2 - 14 = 0$ | A1 | |
| 6(b) |  | B3 | B2 3 points correct B1 2 points correct |