

1 Pure Mathematics 1 – Part 2 — Answers

Answers

1.1 $m = \frac{10 - 2}{5 - 1} = \frac{8}{4} = 2.$

1.2 (a) $\frac{1}{2}$ (same gradient); (b) -2 (product must be -1).

1.3 $(x - 3)^2 + (y + 1)^2 = 16.$

1.4 Centre $(2, -5)$, radius 7.

1.5 $r = \sqrt{(4 - 0)^2 + (6 - 0)^2} = \sqrt{16 + 36} = \sqrt{52} = 2\sqrt{13}.$

1.6 The line $y = 2x + 1$ has gradient 2, so the perpendicular gradient is $-\frac{1}{2}$. Through $(2, 3)$: $y - 3 = -\frac{1}{2}(x - 2)$, which gives $y = -\frac{1}{2}x + 4.$