

| Q | Marking Instructions | AO | Marks | Typical Solution |
|---|---|--------|----------|---|
| 5 | Uses small angle approximation for $\sin x$ or $\tan x$ Condone $y = 5 + 4x + 12x$ for this mark | AO1.1a | M1 | $y = 5 + 4 \sin \frac{x}{2} + 12 \tan \frac{x}{3}$ $\sin x \approx x, \tan x \approx x$ |
| | Obtains correct equation Allow unsimplified form | AO1.1b | A1 | $y \approx 5 + 4 \left(\frac{x}{2} \right) + 12 \left(\frac{x}{3} \right)$ $y \approx 6x + 5$ |
| | Concludes that the graph can be approximated by a straight line. Requires simplification of equation (condone equals) and statement. | AO2.1 | R1 | which is the equation of a straight line. |
| | Total | | 3 | |