

a $u_1 = 1$ and $u_{n+1} = 2u_n + 3$. Find u_4 29 term to term: three steps	b A Fibonacci type sequence starts $1, k$. Its 6th term is 23. Find k. $k = 4$ Fibonacci type: one unknown	c $u_3 = 9$ and $u_{n+1} = 2u_n - 3$. Find u_1 $\frac{9}{2}$ a term to term rule backwards	d A Fibonacci type sequence has 5th term 7 and 6th term 4. Find its 1st term. 23 Fibonacci backwards: signs change
e The terms $k, 2k + 1, 4k - 3$ form an arithmetic sequence. Find k. $k = 5$ arithmetic terms in a letter	f A geometric sequence has 2nd term 6 and 5th term -162. Find its 1st term. -2 the 1st term from two terms	g The terms $x, x + 3, 4x$ form a geometric sequence. Find x. $x = 3$ or $x = -1$ geometric terms in a letter	h Find the common ratio of $3 + \sqrt{3}, 3 + 3\sqrt{3}, \dots$ $\sqrt{3}$ a ratio: rationalise the denominator
i Find the next term of the geometric sequence $1, \sqrt{3} - 1, 4 - 2\sqrt{3}, \dots$ $6\sqrt{3} - 10$ a ratio with two terms	j A geometric sequence has 2nd term 6 and 4th term 12. Find the exact 1st term. $3\sqrt{2}$ or $-3\sqrt{2}$ a surd ratio: two answers	k $u_1 = 2, u_3 = 11$ and $u_{n+1} = ku_n + 1$. Find k. $k = 2$ or $k = -\frac{5}{2}$ a constant from a rule: a quadratic	l $1, r, r^2, \dots$ is Fibonacci type and $r > 0$. Find r. $\frac{1 + \sqrt{5}}{2}$ Fibonacci type and geometric

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