

<p>Find the nth term rule:</p> <p>(a) 6, 12, 24, 48, 96, ...</p> <p>(b) 15, 45, 135, 405, 1215, ...</p> <p>(c) 10, 100, 1000, 10000, 100000</p> <p>(d) 1, 2, 4, 8, 16, ...</p> <p>(e) 1, 4, 16, 64, 256</p>	<p>(e) $\sqrt{3}, 3, 3\sqrt{3}, 9, 9\sqrt{3}$</p> <p>(f) $3\sqrt{2}, 6, 6\sqrt{2}, 12$</p> <p>(g) $1, \sqrt{2}, 2, 2\sqrt{2}, 4$</p> <p>(h) $3, \frac{3}{2}, \frac{3}{4}, \frac{3}{8}, \frac{3}{16}$</p> <p>(i) $2, \frac{1}{2}, \frac{1}{8}, \frac{1}{32}, \frac{1}{128}$</p>
<p>Beast questions:</p> <p>1) $\frac{2}{3}, \frac{5}{6}, \frac{8}{12}, \frac{11}{24}, \frac{14}{48}, \dots$</p> <p>2) $\frac{1}{9}, \frac{3}{11}, \frac{9}{13}, \frac{27}{15}, \frac{81}{17}, \dots$</p> <p>3) $\frac{1}{2}, \frac{4}{4}, \frac{9}{8}, \frac{16}{16}, \frac{25}{32}, \dots$</p>	<p>*3) The first three terms of a geometric sequence are $2x + 8$, $x - 1$ and $x + 11$. Calculate the two possible values of x.</p>

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<p>Find the nth term rule:</p> <p>(a) 6, 12, 24, 48, 96, ... 3×2^n</p> <p>(b) 15, 45, 135, 405, 1215, ... 5×3^n</p> <p>(c) 10, 100, 1000, 10000, 100000 10^n</p> <p>(d) 1, 2, 4, 8, 16, ... $\frac{1}{2} \times 2^n = 2^{n-1}$</p> <p>(e) 1, 4, 16, 64, 256 $\frac{1}{4} \times 4^n = 4^{n-1}$</p>	<p>(e) $\sqrt{3}, 3, 3\sqrt{3}, 9, 9\sqrt{3} (\sqrt{3})^n$</p> <p>(f) $3\sqrt{2}, 6, 6\sqrt{2}, 12 3 \times (\sqrt{2})^n$</p> <p>(g) $1, \sqrt{2}, 2, 2\sqrt{2}, 4 \frac{1}{\sqrt{2}} \times (\sqrt{2})^n = (\sqrt{2})^{n-1}$</p> <p>(h) $3, \frac{3}{2}, \frac{3}{4}, \frac{3}{8}, \frac{3}{16} 6 \times \left(\frac{1}{2}\right)^n = 3 \times \left(\frac{1}{2}\right)^{n-1}$</p> <p>(i) $2, \frac{1}{2}, \frac{1}{8}, \frac{1}{32}, \frac{1}{128} 8 \times \left(\frac{1}{4}\right)^n = 2 \times \left(\frac{1}{4}\right)^{n-1}$</p>
<p>Beast questions:</p> <p>1) $\frac{2}{3}, \frac{5}{6}, \frac{8}{12}, \frac{11}{24}, \frac{14}{48}, \dots \frac{3n-1}{1.5 \times 2^n}$</p> <p>2) $\frac{1}{9}, \frac{3}{11}, \frac{9}{13}, \frac{27}{15}, \frac{81}{17}, \dots \frac{3^{n-1}}{2n+7}$</p> <p>3) $\frac{1}{2}, \frac{4}{4}, \frac{9}{8}, \frac{16}{16}, \frac{25}{32}, \dots \frac{n^2}{2^n}$</p>	<p>*4) The first three terms of a geometric sequence are $2x + 8$, $x - 1$ and $x + 11$. Calculate the two possible values of x.</p> <p>$x = -3$ or -29</p>