Examen

1. $b_1 = 0{,}25$

$b_2 = 0{,}25 \times 4 = 1$

$b_3 = 1 \times 4 = 4$

$b_4 = 4 \times 4 = 16$

$b_5 = 16 \times 4 = 64$

$b_6 = 64 \times 4 = 256$

La respuesta correcta es la

$b = b_6 = 256$

2. $a_1 = 25, a_{k+1} = a_k + 4$

$a_1 = a_2 = a_1 + 4$

$a_n = a_3 = a_2 + 4$

$a_n = 25, 29, 33, 37, 41$

La respuesta sería la

$b = (25, 29, 33, 37, 41)$

3. $a_1 = +\frac{2}{3}, a_{k+1} = a_k - \frac{1}{2}$

$a_1 + a_1 = \frac{2}{3} \times 2 - \frac{1}{2}$

$2a_1 = \frac{2}{3} \times 1 - \frac{1}{6}$

$a_1 = \frac{1}{3} \times 1 - \frac{1}{3}$

$a_2 = \frac{1}{3} \times 1 - \frac{5}{6}$

$a_3 = \frac{1}{3} \times 2 = \frac{4}{3}$

La respuesta correcta es la c

4. $a_1 = 4, r = 3$

$a \times r^{n-1}$

$a_1 = a \times r^{n-1}$

$a_1 = 12^{1-1} = 12$

$a_1 = 4, 3^{1-1} = 1$

y el enésimo es $a_2 = 12$

La respuesta es la c

5. $a_n = \frac{3n-1}{n}$

$a_1 = \frac{3\times 1-1}{1} = \frac{3\cdot 1-1}{1} = 2$

$a_2 = \frac{3\times 2-1}{2} = \frac{3\cdot 2-1}{2} = \frac{5}{2}$

$a_3 = \frac{3\times 3-1}{3} = \frac{3\cdot 3-1}{3} = \frac{8}{3}$

$a_4 = \frac{3\times 4-1}{4} = \frac{3\cdot 4-1}{4} = \frac{11}{4}$

$a_5 = \frac{3\times 5-1}{5} = \frac{3\cdot 5-1}{5} = \frac{14}{5}$

$a_6 = \frac{3\times 6-1}{6} = \frac{3\cdot 6-1}{6} = \frac{17}{6}$

$a_7 = \frac{3\times 7-1}{7} = \frac{3\cdot 7-1}{7} = \frac{20}{7}$

$a_8 = \frac{3\times 8-1}{8} = \frac{3\cdot 8-1}{8} = \frac{23}{8}$

$a_9 = \frac{3\times 9-1}{9} = \frac{3\cdot 9-1}{9} = \frac{26}{9}$

$= 2 + \frac{5}{2} + \frac{8}{3} + \frac{11}{4} + \frac{14}{5} + \frac{17}{6} + \frac{20}{7} + \frac{23}{8} \frac{26}{9} = \frac{60911}{2520}$

6. $\sum_{n=1}^{6} \frac{1}{2n}$

$\frac{1}{2x1} = \frac{1}{2} = 0,5$

$\frac{1}{2x2} = \frac{1}{4} = 0,25$

$\frac{1}{2x3} = \frac{1}{6} = 0,16$

$\frac{1}{2x4} = \frac{1}{8} = 0,125$

$\frac{1}{2x5} = \frac{1}{10} = 0,1$

$\frac{1}{2x6} = \frac{1}{12} = 0,083$

$1,1218 = 1,1225$

7. $\sum_{n=1}^{5} \left(\frac{1}{7}\right)^{n-1}$

$1 + \frac{1}{7} + \frac{1}{49} + \frac{1}{343} + \frac{1}{2401} = \frac{3355}{2401}$

8. $6.950.050$

$-5.150.050$

$1.800.000$

9. $S_n = \frac{9(4^n - 1)}{4-1} = 5461$

$S_1 = \frac{1(4^1 - 1)}{4-1} = 1$

$S_2 = \frac{1(4^2 - 1)}{4-1} = 5$ $\quad S_6 = \frac{1(4^6 - 1)}{4-1} = 1365$

$S_3 = \frac{1(4^3 - 1)}{4-1} = 21$

$S_4 = \frac{1(4^4 - 1)}{4-1} = 85$ $\quad S_7 = \frac{1(4^7 - 1)}{4-1} = 5461$

$S_5 = \frac{1(4^5 - 1)}{4-1} = 341$

morfil