Question

Write the first five terms of the sequence defined recursively

#55 $a_1 = 28$ $a_{k+1} = a_k - 4$

Answer ⌄

$a_1 = 28$

$a_2 = a_1 - 4 = 28 - 4 = 24$

$a_3 = a_2 - 4 = 24 - 4 = 20$

$a_4 = a_3 - 4 = 20 - 4 = 16$

$a_5 = a_4 - 4 = 16 - 4 = 12$

Question

Write the first five terms of the sequence defined recursively

#57 $a_1 = 3$ $a_{k+1} = 2(a_k - 1)$

Answer

$a_1 = 3$

$a_2 = 2(a_1 - 1) = 2 \cdot (3-1) = 4$

$a_3 = 2(a_2 - 1) = 2 \cdot (4-1) = 6$

$a_4 = 2(a_3 - 1) = 2 \cdot (6-1) = 10$

$a_5 = 2(a_4 - 1) = 2 \cdot (10-1) = 18$

Question

Write the first five terms of the sequence defined recursively

#58 $\quad a_1=32 \quad a_{k+1}=\dfrac{1}{2}a_k$

Answer

$a_1=32 \qquad a_2=\dfrac{1}{2}a_1 =\dfrac{1}{2}\cdot 32 = 16 \qquad a_3=\dfrac{1}{2}a_2 =\dfrac{1}{2}\cdot 16 = 8$

$a_4=\dfrac{1}{2}a_3 =\dfrac{1}{2}\cdot 8 = 4 \qquad a_5=\dfrac{1}{2}a_4 =\dfrac{1}{2}\cdot 4 = 2$