Name:_____



Math worksheet on 'Patterning - Equation from Rule for Decreasing Arithmetic Pattern (Level 1)'. Part of a broader unit on 'Patterns and Sums - Advanced'

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1

Find the correct equation that this pattern rule describes

Start at 32 and subtract 6 for each term

$$a_n = 32 + 6(n-1)$$
 $a_n = 32 - 9(n-1)$

$$\begin{vmatrix} \mathbf{c} \\ a_n = 32 - 8(n-1) \end{vmatrix} a_n = 32 - 6(n)$$

$$egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} a_n = 32 - 6(n-1) \end{aligned} \end{aligned}$$

2

Find the correct equation that this pattern rule describes

Start at 22 and subtract 5 for each term

$$egin{aligned} \mathbf{a} & \mathbf{a}_n = a_{n-2} + a_{n-1} & \mathbf{b} \\ a_n = 20 - 5(n-1) & \mathbf{c}_n \end{aligned}$$

$$egin{aligned} \mathbf{c} & \mathbf{d} \ a_n = 19 - 5(n-1) \ a_n = 22 - 5(n) \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n = 22 + 5(n-1) \ a_n = 22 - 5(n-1) \end{aligned}$$

3

Find the correct equation that this pattern rule describes

Start at 18 and subtract 4 for each term

$$egin{aligned} \mathbf{a} & \mathbf{a}_n = 18 - 4(n) & \mathbf{b} \\ a_n = 18 - 3(n-1) & \mathbf{c}_n \end{aligned}$$

$$egin{aligned} \mathbf{c} & \mathbf{d} \ a_n = a_{n-2} + a_{n-1} \ a_n = 18 + 4(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n &= 18 - 5(n-1) \end{aligned} egin{aligned} \mathbf{f} \ a_n &= 18 - 4(n-1) \end{aligned}$$

4

Find the correct equation that this pattern rule describes

Start at 14 and subtract 3 for each term

$$egin{aligned} \mathbf{a} & \mathbf{b} \ a_n = 14 - 3(n-1) & a_n = 14 - 2(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{c} \ a_n = 15 - 3(n-1) \ a_n = 14 + 3(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} & \mathbf{d} & \mathbf{f} \\ a_n & = a_{n-2} + a_{n-1} \end{aligned} \mathbf{f} = \mathbf{14} imes \mathbf{3}^{n-1}$$

5

Find the correct equation that this pattern rule describes

Start at 22 and subtract 4 for each term

$$egin{aligned} \mathbf{a}_n &= 23 - 4(n-1) \, \mathbf{a}_n &= 22 - 4(n) \end{aligned}$$

$$egin{aligned} \mathbf{c} \ a_n &= 22 - 4(n-1) \ a_n &= 22 + 4(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n = a_{n-2} + a_{n-1} \ a_n = 22 - 2(n-1) \end{aligned}$$

6

Find the correct equation that this pattern rule describes

Start at 16 and subtract 3 for each term

$$egin{aligned} \mathbf{a}_n &= 16 - 6(n-1) \, \mathbf{a}_n &= 16 \times 3^{n-1} \end{aligned}$$

$$egin{aligned} \mathbf{c} \ a_n &= 16 - 3(n-1) \ a_n &= 16 - 0(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} & \mathbf{f} \\ a_n &= 16 - 7(n-1) & a_n &= 16 - 3(n) \end{aligned}$$

7

Find the correct equation that this pattern rule describes

Start at 23 and subtract 5 for each term

$$egin{aligned} oldsymbol{c} \ a_n = 23 - 5(n-1) \ oldsymbol{d} \ a_n = a_{n-2} + a_{n-1} \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n &= 23 imes \mathbf{5}^{n-1} \ a_n &= 23 - 1(n-1) \end{aligned}$$