

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

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1

Find the correct equation that this pattern rule describes

Start at 1 and add 6 for each term

$$egin{aligned} \mathbf{a}_n &= 1 + 10(n-1) \, \mathbf{a}_n = a_{n-2} + a_{n-1} \ \mathbf{c}_{n-1} &= 1 + 6(n-1) \, \mathbf{d}_{n-1} = 2 + 6(n-1) \end{aligned}$$

$$egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} a_n &= -2 + 6(n-1) \end{aligned}$$

2

Find the correct equation that this pattern rule describes

Start at 2 and add 3 for each term

$$a_n = 2 + 3(n)$$
 $a_n = 2 + 3(n-1)$

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

$$egin{aligned} \mathbf{e} \ a_n = 2 - 3(n-1) \ a_n = 2 + 4(n-1) \end{aligned}$$

3

Find the correct equation that this pattern rule describes

Start at 1 and add 4 for each term

$$egin{aligned} \mathbf{a}_n &= \mathbf{1} imes \mathbf{4}^{n-1} egin{aligned} \mathbf{b} & \mathbf{a}_n &= 1 + 4(n-1) \end{aligned}$$

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

$$egin{aligned} oldsymbol{e} & a_n = 1 + 2(n-1) & a_n = -3 + 4(n-1) \end{aligned}$$

4

Find the correct equation that this pattern rule describes

Start at 2 and add 4 for each term

$$egin{aligned} \mathbf{a} \ a_n = 2 + 4(n-1) \ a_n = 2 + 5(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{c} & \mathbf{a}_n = \mathbf{2} + \mathbf{4} \mathbf{n} \end{aligned} egin{aligned} \mathbf{d} & \mathbf{a}_{n-2} + a_{n-1} \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n &= 2 - 4(n-1) \ a_n &= 2 + 0(n-1) \end{aligned}$$

5

Find the correct equation that this pattern rule describes

Start at 2 and add 2 for each term

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

$$egin{aligned} \mathbf{c} & \mathbf{d} & \mathbf{d} \ a_n & \mathbf{d} & \mathbf{d} \ a_n & \mathbf{d} & \mathbf{d} \end{aligned}$$

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

6

Find the correct equation that this pattern rule describes

Start at 1 and add 5 for each term

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

$$egin{aligned} \mathbf{c} \ a_n &= 1 - 5(n-1) \ a_n &= -3 + 5(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} & \mathbf{a}_n = \mathbf{4} + \mathbf{5}(n-1) \ \mathbf{a}_n = \mathbf{1} + \mathbf{5}(n) \end{aligned}$$

7

Find the correct equation that this pattern rule describes

Start at 3 and add 2 for each term

$$a_n = 3 \times 2^{n-1}$$
 $a_n = 3 + 1(n-1)$

$$egin{aligned} \mathbf{c} \ a_n = 5 + 2(n-1) \ a_n = 3 + 2(n-1) \end{aligned}$$

$$egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} egin{aligned} a_n = 3 - 2(n-1) \end{aligned} \end{aligned}$$