Name:\_\_\_\_\_



Math worksheet on 'Patterning - Equation from Rule for Decreasing 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 14 and subtract 3 for each term

$$a_n = 14 \times 3^{n-1}$$
  $a_n = 15 - 3(n-1)$ 

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

$$egin{aligned} oldsymbol{e} & oldsymbol{a} & oldsymbol{e} & oldsymbol{a} & a_n = 14 - 2(n-1) oldsymbol{a} & a_n = a_{n-2} + a_{n-1} \end{aligned}$$

2

Find the correct equation that this pattern rule describes

Start at 21 and subtract 4 for each term

$$egin{aligned} \mathbf{a} \ a_n &= 21 - 4(n-1) \ a_n &= 21 - 7(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{c} & \mathbf{c} & \mathbf{d} \\ a_n & = 19 - 4(n-1) \end{aligned} \mathbf{c} & \mathbf{d} & = 21 \times 4^{n-1} \end{aligned}$$

$$egin{aligned} oldsymbol{e} a_n &= 21 - 4(n) egin{aligned} oldsymbol{f} a_n &= a_{n-2} + a_{n-1} \end{aligned}$$

3

Find the correct equation that this pattern rule describes

Start at 22 and subtract 5 for each term

$$egin{aligned} \mathbf{a} & \mathbf{b} \ a_n = a_{n-2} + a_{n-1} \ a_n = 22 - 5(n-1) \end{aligned}$$

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

$$egin{aligned} \mathbf{e} \ a_n &= 20 - 5(n-1) \ a_n &= 19 - 5(n-1) \end{aligned}$$

4

Find the correct equation that this pattern rule describes

Start at 12 and subtract 2 for each term

$$egin{aligned} \mathbf{a} & \mathbf{b} \ a_n = 12 - 0(n-1) \ a_n = 12 - 2(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{c} & \mathbf{d} \ a_n = 12 imes 2^{n-1} \ \mathbf{d} \ a_n = 15 - 2(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} & \mathbf{f} \\ a_n &= 12 + 2(n-1) \ a_n &= 8 - 2(n-1) \end{aligned}$$

5

Find the correct equation that this pattern rule describes

Start at 18 and subtract 4 for each term

$$egin{aligned} \mathbf{a} \ a_n = a_{n-2} + a_{n-1} \ a_n = 18 - 3(n-1) \end{aligned}$$

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

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

6

Find the correct equation that this pattern rule describes

Start at 23 and subtract 5 for each term

$$egin{aligned} \mathbf{a} & \mathbf{b} \\ a_n &= 23 - 5(n-1) & a_n &= 23 - 3(n-1) \end{aligned}$$

$$\mathbf{c}_{a_n} = 23 - 1(n-1) \mathbf{d}_{a_n} = 23 \times 5^{n-1}$$

$$egin{aligned} \mathbf{e} \ a_n &= 23 - 5(n) \ a_n &= a_{n-2} + a_{n-1} \end{aligned}$$

7

Find the correct equation that this pattern rule describes

Start at 11 and subtract 2 for each term

$oldsymbol{a}_{n} = 11 - 0(n-1) oldsymbol{b}_{n} = 14 - 2(n-1)$
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$$egin{aligned} \mathbf{c} \ a_n = a_{n-2} + a_{n-1} \ a_n = 11 - 1(n-1) \end{aligned}$$

$$egin{aligned} \mathbf{e} \ a_n &= 11 - 2(n) \ a_n &= 11 - 2(n-1) \end{aligned}$$