

6.3 Explicit Formulas for Sequences

Name: _____

Corrective Assignment

Directions: 1-3: Choose the best explicit formula for the following sequence.

1) $\frac{2}{3}, 2, 6, 18$

- a) $h_n = \left(\frac{2}{3}\right)(3^{n-1})$
- b) $h_n = \left(\frac{2}{3}\right)(2^{n-1})$
- c) $h_n = (3)\left(\frac{2}{3}\right)^{n-1}$
- d) $h_n = (2)\left(\frac{2}{3}\right)^{n-1}$

2) 3, 6, 12, 24

- a) $h_n = (3)(3^{n-1})$
- b) $h_n = (2)(-3^{n-1})$
- c) $h_n = (3)(2^{n-1})$
- d) $h_n = h_{n-1} \times 2$

3) 3, 9, 15, 21, 27

- a) $b_n = 3(3^{n-1})$
- b) $b_n = 9(n - 1)$
- c) $b_n = 3 + 6(n - 1)$
- d) $b_n = 6 + 3(n - 1)$

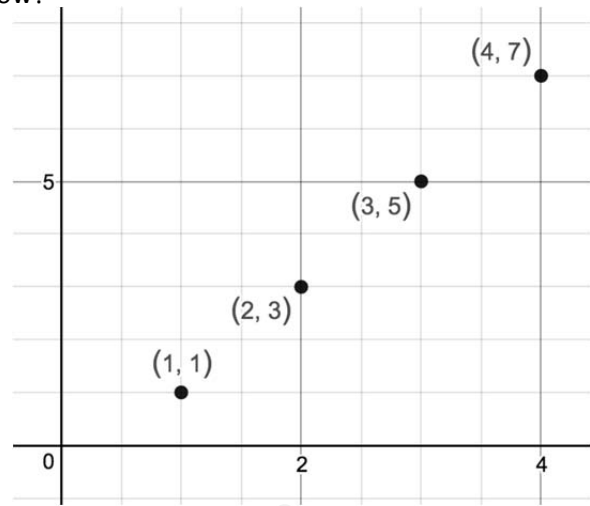
Directions: 4-5: Consider the following graph as a sequence plotted by $(n, B(n))$.

4)

a) Is this an arithmetic or geometric sequence? How do you know?

b) What is the explicit formula for this sequence?

c) What is the 20th term of the sequence?

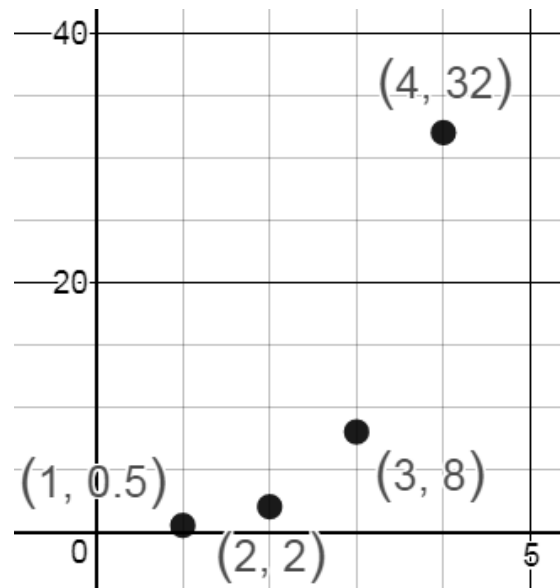


5)

a) Is this an arithmetic or geometric sequence? How do you know?

b) What is the explicit formula for this sequence?

c) What is the 8th term of the sequence?



Directions: 6-10: Use the sequence to answer each of the questions.

<p>6) -6, -12, -24, -48, -96</p> <p>a) What is the explicit formula for this sequence?</p> <p>b) What is the 10th term of the sequence?</p> <p>c) Describe what the graph will look like using complete sentences.</p>	<p>7) 52, 45, 38, 31, 24</p> <p>a) What is the explicit formula for this sequence?</p> <p>b) What is the 25th term of the sequence?</p> <p>c) Describe what the graph will look like using complete sentences.</p>	
<p>8) 1, 10, 100, 1000</p> <p>a) What is the explicit formula for this sequence?</p> <p>b) What is the 9th term of the sequence?</p> <p>c) Describe what the graph will look like using complete sentences.</p>	<p>9) -7, 1, 9, 17, 25</p> <p>a) What is the explicit formula for this sequence?</p> <p>b) What is the 30th term of the sequence?</p> <p>c) Describe what the graph will look like using complete sentences.</p>	<p>10) 486, 162, 54, 18, 6</p> <p>a) What is the explicit formula for this sequence?</p> <p>b) What is the 8th term of the sequence?</p> <p>c) Describe what the graph will look like using complete sentences.</p>

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Corrective Assignment Answers

- 1) A 2) C 3) C 4) A: Its arithmetic because it forms a linear relationship. B: $B(n) = 1 + 2(n-1)$ C: 39
 5) A: Its geometric because it forms an exponential relationship. B: $B(n) = (0.5)(4^{n-1})$ C: 8192
 6) A: $G(n) = -6(2^{n-1})$ B: -3072 C: Its an exponential curve going down to the right. 7) A: $H(n) = 52 - 7(n-1)$
 7B: -116 7c: It's a line that goes down to the right. 8) A: $A(n) = 1(10^{n-1})$ B: 1,000,000,000 C: Its an exponential curve going up to the right. 9) A: $Y(n) = -7 + 8(n-1)$ B: 225 C: It's a line that goes up to the right.
 10) A: $T(n) = 486\left(\frac{1}{3}\right)^{n-1}$ B: $\frac{2}{9}$ C: its an exponential curve that goes down to the right.