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Well, Maybe It *Is* a Function! Sequences and Functions

Problem Set

Write each arithmetic sequence as a linear function. Graph the function for all integers, n , such that $1 \leq n \leq 10$.

1. $a_n = 16 + 5(n - 1)$

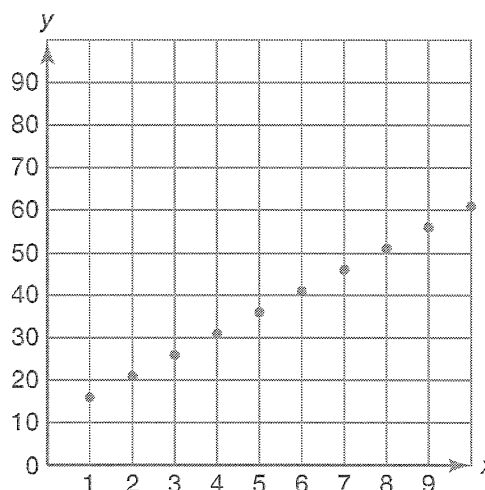
$a_n = 16 + 5(n - 1)$

$f(n) = 16 + 5(n - 1)$

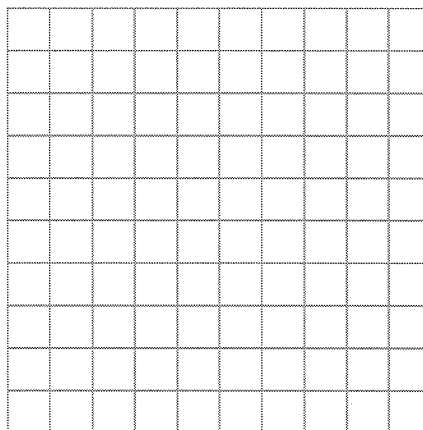
$f(n) = 16 + 5n - 5$

$f(n) = 5n + 16 - 5$

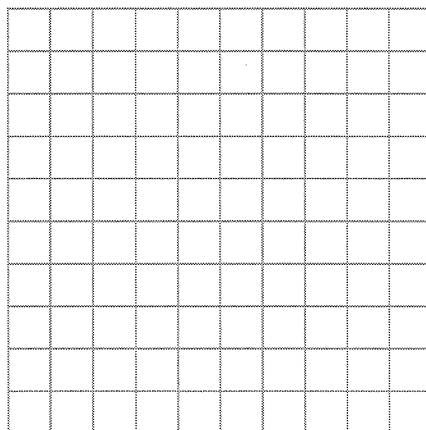
$f(n) = 5n + 11$



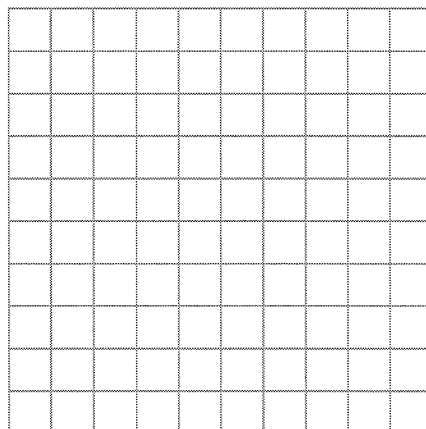
2. $a_n = -50 + 15(n - 1)$



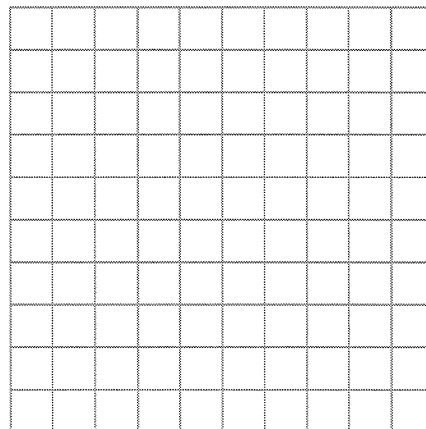
3. $a_n = 100 + (-20)(n - 1)$



4. $a_n = -9 + (-7)(n - 1)$

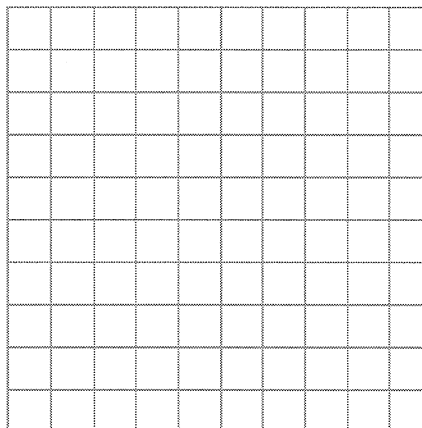


5. $a_n = 550 + (-50)(n - 1)$



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6. $a_n = 3 + \left(-\frac{3}{5}\right)(n - 1)$



Write each geometric sequence as an exponential function. Graph the function for all integers, n , such that $1 \leq n \leq 10$.

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7. $g_n = 5 \cdot 2^{n-1}$

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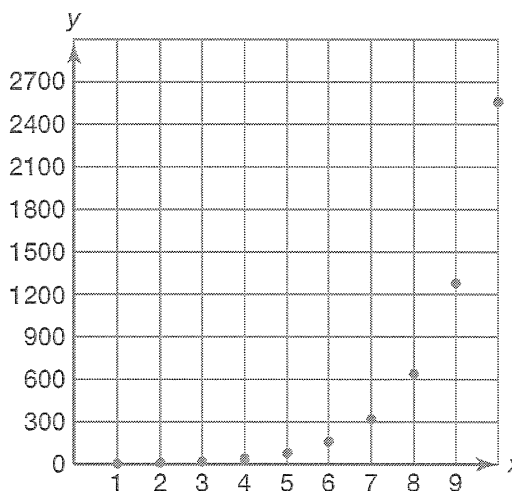
$f(n) = 5 \cdot 2^{n-1}$

$f(n) = 5 \cdot 2^n \cdot 2^{-1}$

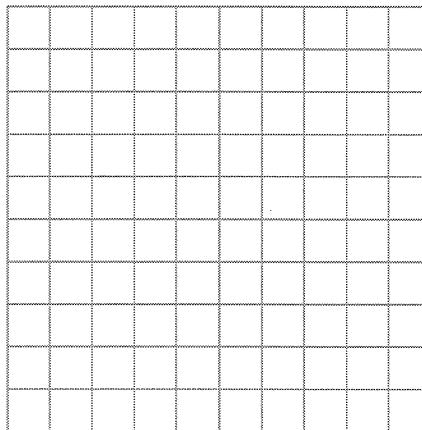
$f(n) = 5 \cdot 2^{-1} \cdot 2^n$

$f(n) = 5 \cdot \frac{1}{2} \cdot 2^n$

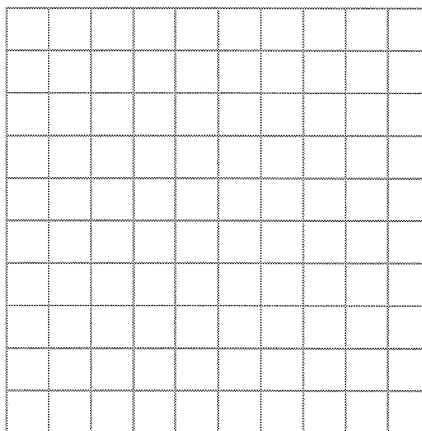
$f(n) = \frac{5}{2} \cdot 2^n$



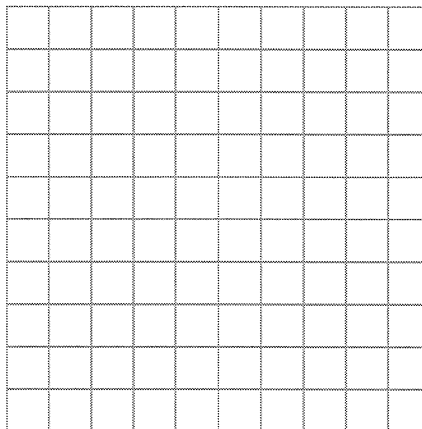
8. $g_n = -3 \cdot 3^{n-1}$



9. $g_n = 20 \cdot 2.5^{n-1}$

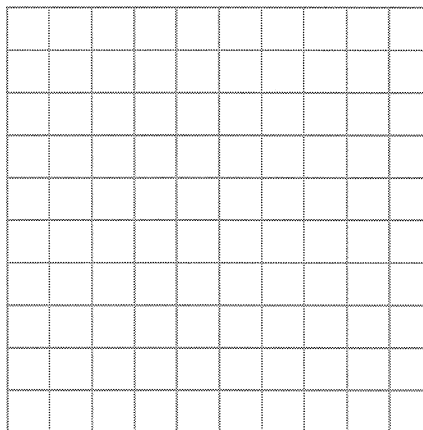


10. $g_n = 900 \cdot 0.9^{n-1}$



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11. $g_n = -0.5 \cdot 2^{n-1}$



12. $g_n = 1250 \cdot 1.25^{n-1}$

