Name: _____

Worksheet ID: 1

Sequences and Exponental Functions Practice Test

1) Write the explicit formula for the sequence:

$15, 26, 37, 48 \ldots$

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2) Write the explicit formula for the sequence:

$56, 60, 64, 68 \ldots$

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3) Find the 27th number in the sequence:

$28, 47, 66, 85 \ldots$

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4) Find the 25th number in the sequence:

$-94, -92, -90, -88 \ldots$

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5) Write the explicit formula for the sequence:

$-2, -16, -128, -1024 \ldots$

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6) Write the explicit formula for the sequence:

$4, 8, 16, 32 \ldots$

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7) Find the 16th number in the sequence:

$8,\ 24,\ 72,\ 216 \ldots$

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8) Find the 16th number in the sequence:

$-14,\ -56,\ -224,\ -896 \ldots$

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9) Write the first four numbers of sequence given the following explicit formula:

$a_n = 15n - 58$

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10) Write the first four numbers of sequence given the following explicit formula:

$a_n = 4n + 41$

11) Write the first four numbers of sequence given the following explicit formula:

$a_n = 7(12)^{n-1}$

12) Write the first four numbers of sequence given the following explicit formula:

$a_n = 13(12)^{n-1}$

13) You have \$1849 in a bank account that pays 8% interest. Write an equation for how much money you will have after 9 years.

14) You have \$3297 in a bank account that pays 6% interest. Write an equation for how much money you will have after 18 years.

15) You bought a car for \$3896, but it loses its value at a rate of 18% per year, write an equation for how much the car will be worth after 8 years.

16) You bought a car for \$1896, but it loses its value at a rate of 17% per year, write an equation for how much the car will be worth after 6 years.

17) There are 792 bacteria present in a colony. The number of bacteria doubles every 6 hours. Write an equation for how many bacteria will be present after 54 hours have passed.

18) There are 203 bacteria present in a colony. The number of bacteria doubles every 9 hours. Write an equation for how many bacteria will be present after 81 hours have passed.

19) A medicine has a half-life of 4 hours. You have 322 mg, write the equation for how much will you have in your system after 36 hours have passed.

20) A medicine has a half-life of 8 hours. You have 296 mg, write the equation for how much will you have in your system after 64 hours have passed.

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21) You ave made an investment of \$768 that gains 9.11% interest. Write an equation for how much your investment will be worth after 19 years.

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22) You ave made an investment of \$937 that gains 5.16% interest. Write an equation for how much your investment will be worth after 5 years.

Answer Key: 1) $a_n = 11n + 4$ 2) $a_n = 4n + 52$ 3) 522 4) -46
5) $a_n = -2(8)^{n-1}$ 6) $a_n = 4(2)^{n-1}$ 7) 114791256 8) -15032385536
9) $-43, -28, -13, 2\ldots$ 10) $45, 49, 53, 57\ldots$ 11) $7, 84, 1008, 12096\ldots$ 12) 13, 156, 187
13) $1849(1.08)^9$ 14) $3297(1.06)^{18}$ 15) $3896(0.82)^8$ 16) $1896(0.83)^6$ 17) $792(2)^9$
18) $203(2)^9$ 19) $322(\frac{1}{2})^9$ 20) $296(\frac{1}{2})^8$ 21) $768(1.0911)^{19}$ 22) $937(1.0516)^5$