M10 - 6/7.0 - Arithmetic Sequences and Series Rev

1) Find missing terms of the sequence.

a) 4, _____, -2, _____, _____,

b) 5, _____, _____, 20, 25,

c) 13, _____, _____, _____, 81
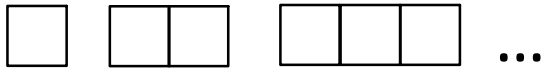
d) $x + 1$, $3x - 1$, $5x - 3$, _____, _____,

8) If you get a signing bonus of $10,000 and make $36, 000 in your first year at work and get a raise of $3000 per year. How much will you make in your 10th year at work? How much will you make total after 10 years?

2) Find t_1 and d

$a)$ $t_2 = 8, t_4 = -32$

$b)$ $t_3 = 3, t_{12} = -1527$

3) In the $sequence$ $3,5,7$ ...

a) Find the General term $t_n = ?$

b) What is the tenth term t_{10} =?

c) 31 is what term?

d) What is the sum of the first twelve terms?

E) Find the number of terms if $s_n = 24$.

9) $s_n = 72, d = 4, t_1 = 2, find$ n.

10) $s_2 = 9, s_3 = 21$, Find the first five arithmetic terms.

11) $t_2 + t_3 = 20, s_2 = 12$, Find the first five geometic terms.

4) The following diagrams are made out of toothpicks.

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a) Create a Sequence Find the Equation

b) Find the Number of Toothpicks in the 5th Diagram.

c) Find the Number of Toothpicks in the 10th Diagram.

12) Solve

$a)$ $\sum_{k=1}^{5} 3k =$

$b)$ $\sum_{k=2}^{5} 2k - 1 =$

5) Find x to be arithmetic

$\underline{x + 2}$ $\underline{2x + 1}$ $\underline{4x - 3}$

6) Find the sum of the first sixth terms of the sequence.

2,   6,   10,   _____,   _____,   _____

7) Find "n" the number of terms.

$a)$ $13, 15, 17, 19, ...273$

$b)$ $8, -6, -20,..........-160$