

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

## PC30S Individual Checkup – Arithmetic Sequences & Series

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1) Write the first 5 terms of each arithmetic sequence:

a) 7, 11, 15, ?, ?

b)  $t_1 = -1$  and  $d = -3$

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2) Find the indicated term for an arithmetic sequence:

a)  $t_1 = 5$     $d = 3$     $t_{12} = ?$

b)  $t_1 = \frac{2}{3}$     $d = -\frac{1}{4}$  (or  $-0.25$ )    $t_9 = ?$

3) Find the number of terms in each arithmetic sequence:

a)  $t_1 = 6$     $t_n = -30$     $d = -3$

b)  $t_1 = -3$     $t_n = 82$     $d = 5$

c) 23, 20, 17, ..., -100

4) Find  $t_1$  for the following arithmetic sequence:

a)  $t_6 = 10$     $t_{18} = 46$

b)  $t_5 = 3$     $t_{25} = -57$

5) Find  $t_{102}$  if  $t_7 = 78$  and  $t_{18} = 45$

- **Hint – Find the first term and the common difference first!**

6) Find the sum of the arithmetic series:

$$2 + 5 + 8 + \dots + 77$$

7) Find the sum of the first twenty terms for the series:

$$23 + 19 + 15 + \dots$$

8) Find  $S_{20}$  if  $t_1 = 8$  and  $t_{20} = 65$

9) Find  $t_1$  if  $S_{17} = 106.25$  and  $t_{17} = 8.25$ .

10) Find  $d$  if  $S_{15} = 337.5$  and  $t_1 = -2$ .