

FORM 4 ADDITIONAL MATHEMATICS **5.1 ARITHMETIC PROGRESSIONS (PART 2)**

NAME: _____

CLASS: _____

- 1) 2, 6, 10, 14, (sum of the first 10 terms)

Solution: $a =$
 $d =$
 $S_n = \frac{n}{2}[2a + (n-1)d]$
 $S_{10} = \frac{10}{2}[2(\quad) + (\quad)]$
 $=$

- 2) -6, 1, 8, 15, ..., 127

Solution: $a =$
 $d =$
 $T_n =$
 $a + (n-1)d =$
 $+ (n-1) =$
 $n =$
 $n =$
 $S_n = \frac{n}{2}[a + l]$
 $\therefore S_{20} = \frac{20}{2}(\quad + \quad)$
 $= (\quad)$
 $=$

- 3) The first term and the last term of an arithmetic progression are 3 and 21 respectively, and the sum of the series is 240. Find the number of terms.

Answer: $a =$, $l =$, $S_n =$
 $S_n = \frac{n}{2}(a + l)$
 $240 = \frac{n}{2}(\quad + \quad)$
 $n =$

- 4) Given an arithmetic progression -6, 1, 8, 15, ..., find the sum from the 9th term to the 20th term.

Answer: $a =$
 $d =$
 $S_n = \frac{n}{2}[2a + (n-1)d]$
 $S_{20} = \frac{20}{2}[2(\quad) + (\quad)]$
 $=$
 $S_8 = \frac{8}{2}[2(\quad) + (\quad)]$
 $=$
 $\therefore \text{Sum from } T_9 \text{ to } T_{20} = S_{20} - S_8$
 $=$
 $=$

- 5) The sixth terms of an arithmetic progression is 20 and the sum of the first six terms is 210. Find the first term and the common difference.

Answer: $T_6 =$, $S_6 =$
 $a + 5d = 20 \quad \text{--- (1)}$
 $\frac{6}{2}(a + d) = 210$
 $2a + 5d = \quad \text{--- (2)}$
 Solve (1) and (2).
 $a + 5d = 20$
 $2a + 5d = 70$
 $\underline{a =}$
 $a =$
 Substitute $a = 50$ into $50 + 5d = 20$
 $5d =$
 $d =$