1. $5, -1, -7, -13, -19, -25$

D_1 -6 -6 -6 -6 -6

A. LINEAR | EQUATION: $y = -6x + 11$ |

2. $1, 15, 71, 223, 549, 1151$

D_1 14 56 152 326 602

D_2 42 96 174 276

D_3 54 78 102

D_4 24 24

D. QUARTIC | EQUATION: $y = 1x^4 - 1x^3 + 2x^2 - 1$ |

3. $3, 12, 48, 192, 768, 3072$

$\times 4$ $\times 4$ $\times 4$ $\times 4$ $\times 4$

E. GEOMETRIC | EQUATION: $t_n = t_1 r^{n-1}$
$t_n = 3(4)^{n-1}$ |

4. $5, 3, -3, -13, -27, -45$

D_1 -2 -6 -10 -14 -18

D_2 -4 -4 -4 -4

B. QUADRATIC | EQUATION:
$y = -2x^2 + 4x + 3$ |

5. Using: $\{2, 3, 10, 29, 66, 127$

D_1 1 7 19 37 61

D_2 6 12 18 24

D_3 6 6 6
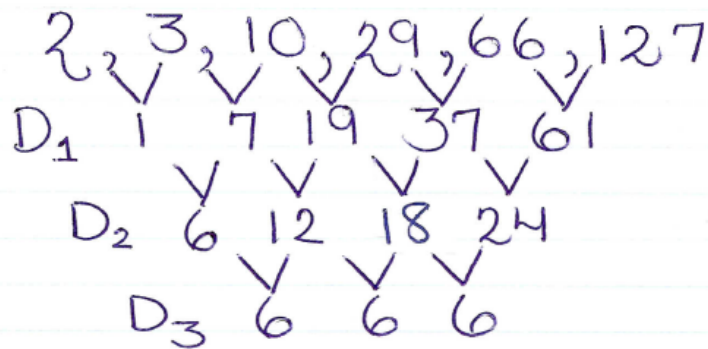
C. CUBIC | EQUATION:
$$y = 1x^3 + 2$$

6.
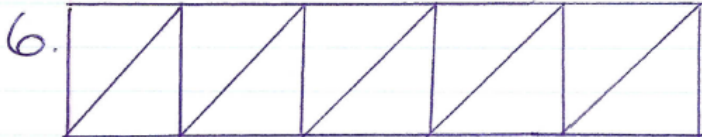
1 Section = 5
2 sections = 9
3 Sections = 13
4 sections = 17
5 sections = 21

* 100 sections (Need to use the formula)

$t_1 = 5$ $t_n = t_1 + (n-1)d$ For 100 sections:
$d = 4$ $t_n = 5 + (n-1)4$ $t_n = 4n + 1$
       $t_n = 5 + 4n - 4$ $t_{100} = 4(100) + 1$
       $t_n = 4n + 1$ $t_{100} = 400 + 1$
                      $t_{100} = 401$

7. See Graph:

Ⓐ When is the rocket 12 m above the ground?
___2___ sec   ___18___ sec

Ⓑ What is the maximum height of the rocket?
___32 m___

Ⓒ How high is the rocket after 14 seconds?
___28 m___

Ⓓ During which time period is the rocket climbing ___0 sec___ to ___10 sec___.