Quadratic Sequences Answers

Warm up - Find the n^{th} term for the following linear sequences:

1. 7, 11, 15, 19 — **4n + 3**
2. 4, 13, 22, 31 — **9n – 5**
3. 5, 13, 21, 29 — **8n – 3**

Stage 1 - Find the next term in the following sequences:

1. 14, 23, 34, 47, 62 — **79**
2. 12, 20, 30, 42, 56 — **72**
3. 4, 9, 16, 25, 36 — **49**
4. 13, 21, 31, 43, 57 — **73**
5. 5, 7, 13, 23, 37 — **55**
6. 5, 2, −5, −16, −31 — **-50**
7. 9, 9, 7, 3, −3 — **-11**
8. 1, 5, 13, 25, 41 — **61**

Stage 2 - Find the n^{th} term for each of the following sequences.

1. 9, 23, 45, 75, 113 — **$4n^2+2n+3$**
2. 14, 28, 50, 80, 118 — **$4n^2+2n+8$**
3. 16, 24, 34, 46, 60 — **$n^2+5n+10$**
4. 13, 24, 39, 58, 81 — **$2n^2+5n+6$**
5. 13, 21, 33, 49, 69 — **$2n^2+2n+9$**
6. 11, 23, 41, 65, 95 — **$3n^2+3n+5$**
7. 15, 31, 53, 81, 115 — **$3n^2+7n+5$**
8. 12, 21, 34, 51, 72 — **$2n^2+3n+7$**

Stage 3 - Find the n^{th} term for each of the following sequences.

1. 4, 10, 22, 40, 64 — **$3n^2-3n+4$**
2. 5, 3, −3, −13, −27 — **$-2n^2+4n+3$**
3. 1, 5, 13, 25, 41 — **$2n^2-2n+1$**
4. −3, −1, 7, 21, 41 — **$3n^2-7n+1$**
5. −3, −5, −5, −3, 1 — **n^2-5n+1**
6. 1, −4, −13, −26, −43 — **$-2n^2+n+2$**
7. 10, 8, 0, −14, −34 — **$-3n^2+7n+6$**
8. 3, 0, −1, 0, 3 — **n^2-6n+8**