Answer key

The method: Arithmetic sequences

Each term adds the common difference d. The nth term is $a_1 + (n - 1)d$.

$-3, -8, -13, -18, \ldots$ term 13 $= -63$

$d = -8 - (-3) = -5$ the common difference

$-3 + (13 - 1)(-5) = -63$ $a_n = a_1 + (n - 1)d$

$0, 12, 24, 36, \ldots$ term 44 $= 516$

$d = 12 - 0 = 12$ the common difference

$0 + (44 - 1)(12) = 516$ $a_n = a_1 + (n - 1)d$

Problems 1 and 2 worked out · Version 0A

$18, 24, 30, 36, \ldots$ term 28 $= 180$

$d = 24 - 18 = 6$ the common difference

$18 + (28 - 1)(6) = 180$ $a_n = a_1 + (n - 1)d$

$-20, -14, -8, -2, \ldots$ term 48 $= 262$

$d = -14 - (-20) = 6$ the common difference

$-20 + (48 - 1)(6) = 262$ $a_n = a_1 + (n - 1)d$

Arithmetic sequences · Version 0A

1) 180 2) 262 3) −109 4) 88 5) 178 6) −27
7) −364 8) 335 9) −420 10) 399 11) 135
12) 89 13) 53 14) 69 15) −128 16) 126
17) 165 18) 152