

A2.A.30: Sequences: Determine the common difference in an arithmetic sequence

- 1 What is the common difference of the arithmetic sequence 5, 8, 11, 14?
 - 1) $\frac{8}{5}$
 - 2) -3
 - 3) 3
 - 4) 9

- 2 What is the common difference of the arithmetic sequence below?
 $-7x, -4x, -x, 2x, 5x, \dots$
 - 1) -3
 - 2) $-3x$
 - 3) 3
 - 4) $3x$

- 3 What is the common difference in the sequence $2a + 1, 4a + 4, 6a + 7, 8a + 10, \dots$?
 - 1) $2a + 3$
 - 2) $-2a - 3$
 - 3) $2a + 5$
 - 4) $-2a + 5$

- 4 Given the sequence: $x, (x + y), (x + 2y), \dots$
Which expression can be used to determine the common difference of this sequence?
 - 1) $x - (x + y)$
 - 2) $(x + 2y) - (x + y)$
 - 3) $\frac{x}{(x + y)}$
 - 4) $\frac{(x + 2y)}{(x + y)}$

- 5 Which arithmetic sequence has a common difference of 4?
 - 1) $\{0, 4n, 8n, 12n, \dots\}$
 - 2) $\{n, 4n, 16n, 64n, \dots\}$
 - 3) $\{n + 1, n + 5, n + 9, n + 13, \dots\}$
 - 4) $\{n + 4, n + 16, n + 64, n + 256, \dots\}$

A2.A.30: Sequences: Determine the common difference in an arithmetic sequence**Answer Section**

1 ANS: 3 REF: 061001a2

2 ANS: 4 REF: 061411a2

3 ANS: 1
 $(4a + 4) - (2a + 1) = 2a + 3$

REF: 011401a2

4 ANS: 2 REF: 011610a2

5 ANS: 3 REF: 011110a2