

10 (a) An arithmetic series is given by

$$\sum_{r=5}^{20} (4r + 1)$$

10 (a) (i) Write down the first term of the series.

[1 mark]

10 (a) (ii) Write down the common difference of the series.

[1 mark]

10 (a) (iii) Find the number of terms of the series.

[1 mark]

10 (b) A **different** arithmetic series is given by

$$\sum_{r=10}^{100} (br + c)$$

where b and c are constants.

The sum of this series is 7735

10 (b) (i) Show that $55b + c = 85$

[4 marks]

10 (b) (ii) The 40th term of the series is 4 times the 2nd term.

Find the values of b and c .

[4 marks]