3.

28 12 15 24 20 13 16 7 11

The nine numbers above are to be packed into bins of size n, where n is an unknown integer.

When the first-fit bin packing algorithm is used, the numbers are packed as follows

Bin 1	28	12	7
Bin 2	15	24	11
Bin 3	20	13	16

(a) Determine the possible values of n

(3)

When the first-fit decreasing bin packing algorithm is used, **four** bins are required.

(b) Determine the value of n, justifying your answer.

(2)

(Total for Question 3 is 5 marks)