1 A tank already holds 5 litres. 3 litres are added every minute.

(a) Write the volume after $0, 1, 2, 3, 4$ minutes as a sequence (2)

(b) Write down the term-to-term rule (1)

(c) Write V, the volume after t minutes, in terms of t (1)

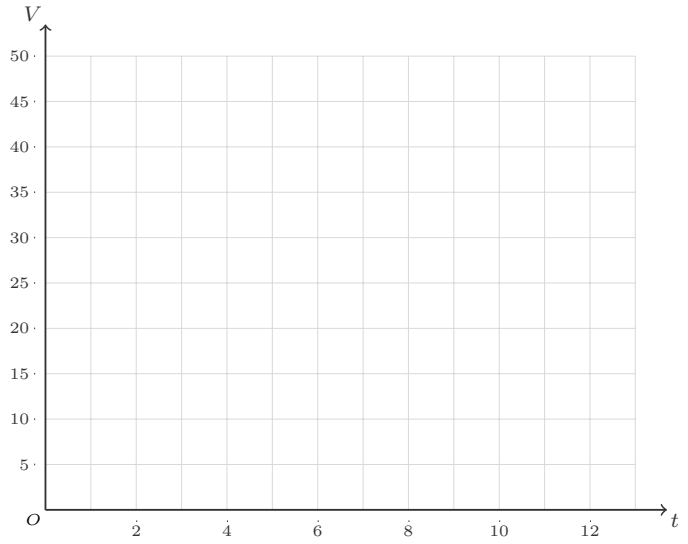
(d) Use your rule to find the volume after 10 minutes (1)

(e) The tank holds 50 litres. **Find when it is full.** (3)

(8 marks)

2 The same tank. **Complete the table, draw the graph, and label both axes.**

t is the time in minutes and V is the volume in litres.



(a) $t = 0, 2, 4, 6, 8$: write the five values of V (2)

(b) Plot and rule the line (4)

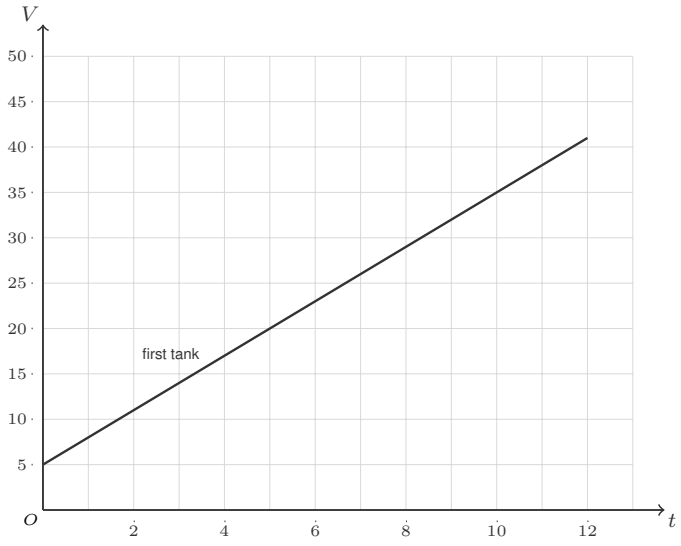
(c) Write down the gradient, and **say what it means** (2)

(d) Write down where the line crosses the vertical axis, and **say what that means** (2)

(10 marks)

3 The first tank's graph is drawn again below. A **second** tank already holds 23 litres and gains 1 litre a minute.

t is the time in minutes and V is the volume in litres.



(a) Write V in terms of t for the second tank (1)

(b) **Draw and label the second tank's line** on the grid (3)

(c) **When do the two tanks hold the same amount? Give the time and the volume.** (3)

(d) Which tank holds more after 4 minutes? (1)

(e) Which tank holds more after 12 minutes? (1)

(9 marks)