Name:

Question 1

Question 3 **(25 marks)**

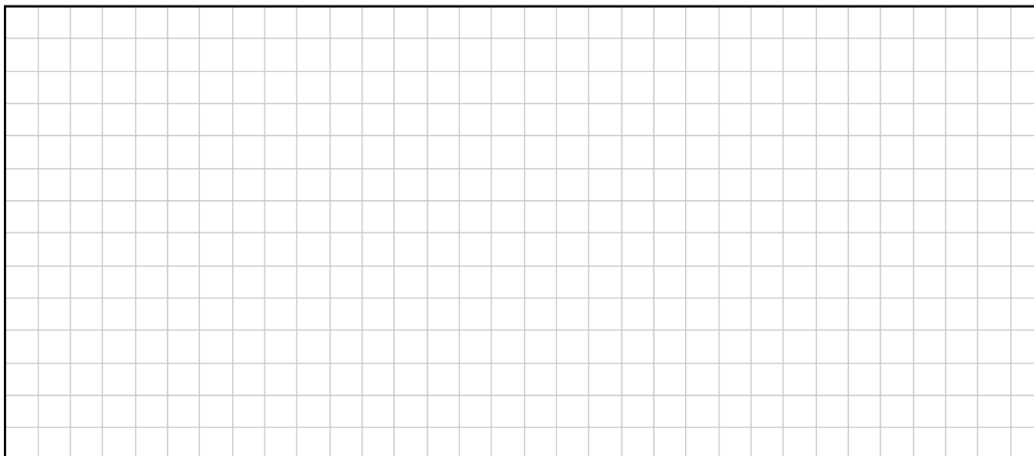**(a)** Solve the equation $2x^2 - 7x - 3 = 0$. Give each answer correct to 2 decimal places.

(b) Solve the simultaneous equations below to find the value of a and the value of b.

$$2a + 3b = 15$$
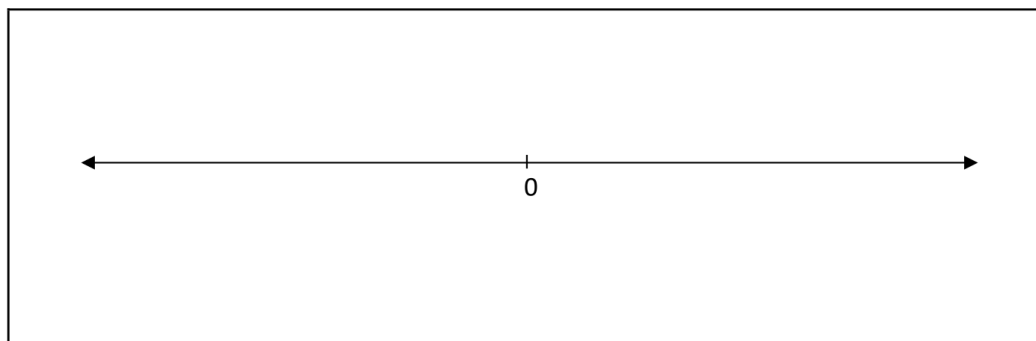$$5a + b = -8$$

Question 2

Question 4 **(30 marks)**

(a) **(i)** Solve the following inequality, for $x \in \mathbb{R}$:
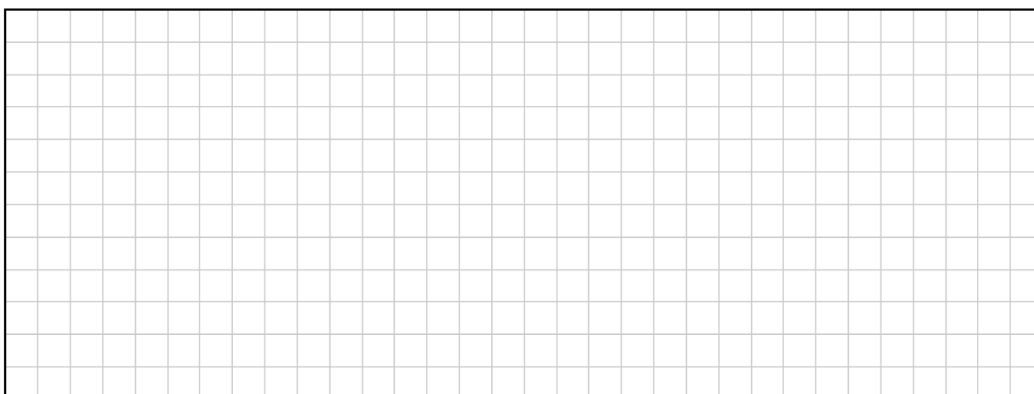
$$5 - 2x \leq 11$$

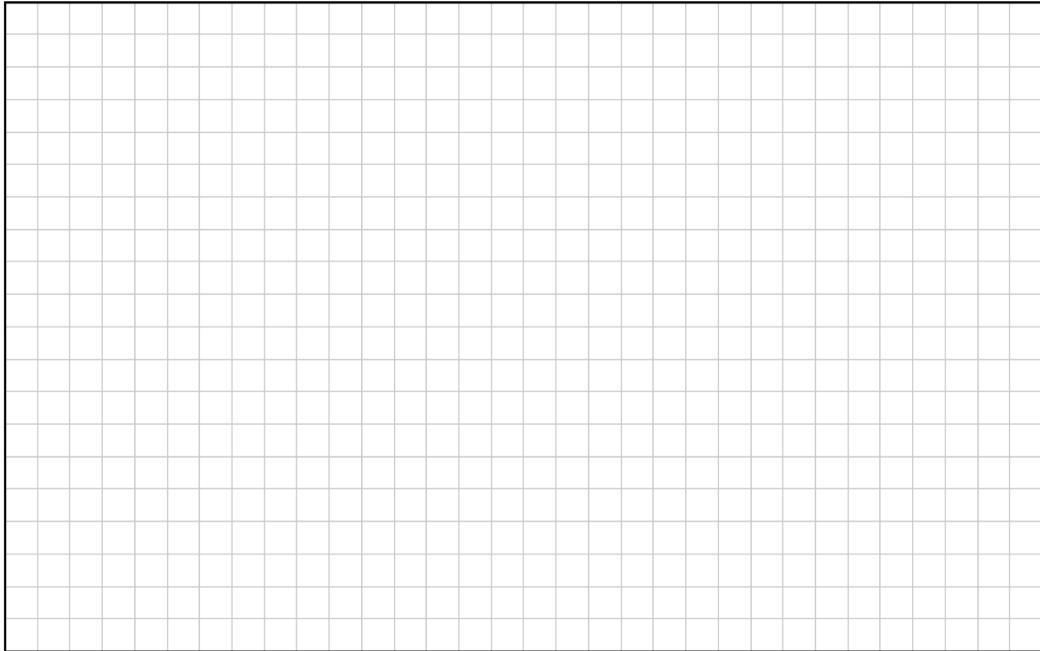**(ii)** Show the solution set on the number line below. Remember that $x \in \mathbb{R}$.

Question 3

(b) **(i)** Florence bought a golf club online from a company in Britain.
The cost was £138·75 sterling.
The exchange rate was €1 = £0·8338.

How much did the golf club cost in euro?
Give your answer correct to the nearest cent.

(ii) Florence also bought a golf bag at her local golf club during a sale.
The original cost was €125, including VAT at 23%.
She got a discount of 15% in the sale.
Work out how much **VAT** Florence paid.
Give your answer correct to the nearest cent.

Question 4

Question 1 **(25 marks)**

Eimear earns a gross wage of €40 000 per annum with Company A.

(a) Eimear pays income tax at a rate of 20% on income up to the standard rate cut-off point of €35 300. She pays tax at a rate of 40% on the remainder.
She has annual tax credits of €1650.
Find how much income tax she pays per annum.

(b) Eimear pays her health insurance which costs her €1500 net. Find her annual income after paying income tax and health insurance (i.e. her net annual income).

(c) Eimear is planning to change jobs. She is offered a job by Company B with a gross wage of €38 000 and a bonus of €1500 (tax free to Eimear) to be paid by the company, which she would use to pay her health insurance. Her tax rates and credits would remain the same. Find by how much Eimear's net annual income (after paying income tax and health insurance) will increase if she accepts the job with Company B.