Edexcel GCSE
Mathematics (Linear) – 1MA0

NEGATIVE NUMBERS

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions

Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information

The marks for each question are shown in brackets – use this as a guide as to how much time to spend on **each** question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice

Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.

1. Sally wrote down the temperature at different times on 1st January 2003.

Time	Temperature
midnight	– 6 °C
4 am	–10 °C
8 am	– 4 °C
noon	7 °C
3 pm	6 °C
7 pm	–2 °C

(a) Write down

(i) the **highest** temperature,

.....°C

(ii) the **lowest** temperature.

(2)

(b) Work out the difference in the temperature between

(i) 4 am and 8 am,

.....°C

(ii) 3 pm and 7 pm.

.....°C

(2)

At 11 pm that day the temperature had fallen by 5 °C from its value at 7 pm.

(c) Work out the temperature at 11 pm.

.....°C

(1)

(5 marks)

2. The table shows temperatures at midnight and midday on one day in five cities.

City	Midnight temperature	Midday temperature
Belfast	−3 °C	4 °C
Cambridge	−1 °C	4 °C
Edinburgh	−7 °C	−1 °C
Leeds	−6 °C	3 °C
London	−2 °C	6 °C

(a) Which city had the lowest midnight temperature?

.....

(1)

(b) How many degrees higher was the midnight temperature in Cambridge than the midnight temperature in Leeds?

..... °C

(1)

(c) Which city had the greatest rise in temperature from midnight to midday?

.....

(1)

(3 marks)

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3. At **midnight**, the temperature was –8°C.
By 10 00, the temperature had increased by 6°C.

(a) Work out the temperature at 10 00

.....°C

(1)

By midday, the temperature was 4°C.

(b) Work out the difference between the temperature at midday and the temperature at **midnight**.

.....°C

(2)

(5 marks)

4. The table shows the temperatures in four cities at noon one day.

Oslo	−13°C
New York	−5°C
Cape Town	9°C
London	2°C

(a) Write down the **highest** temperature.

..... °C

(1)

(b) Work out the difference in temperature between Oslo and New York.

..... °C

(1)

(c) Work out the difference in temperature between Cape Town and Oslo.

..... °C

(1)

At 8 pm the temperature in London was 3°C lower than the temperature at noon.

(d) Work out the temperature in London at 8 pm.

..... °C

(1)

(4 marks)

5. The table shows the temperatures at midnight in 6 cities during one night in 2006

City	Temperature
Berlin	5°C
London	10°C
Moscow	–3°C
New York	2°C
Oslo	–8°C
Paris	7°C

(a) Write down the city which had the lowest temperature.

.....

(1)

(b) Work out the difference in temperature between London and Moscow.

.....°C

(2)

(1)

(4 marks)

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6. At midnight, the temperature was –5°C.

By 9 am the next morning, the temperature had increased by 3°C.

(a) Work out the temperature at 9 am the next morning.

…….°C

(1)

At midday, the temperature was 7°C.

(b) Work out the difference between the temperature a midday and the temperature at midnight.

…….°C

(2)

(3 marks)

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7. The table shows the midday temperatures in 4 different cities on Monday.

City	Midday temperature (°C)
Belfast	5
Cardiff	–1
Glasgow	–6
London	–4

(a) Which city had the lowest temperature? ……...

(1)

(b) Work out the difference between the temperature in Cardiff and the temperature in Belfast.

…….... C

(1)

By Tuesday, the midday temperature in London had risen by 7 °C.

(c) Work out the midday temperature in London on Tuesday.

…….... C

(1)

(3 marks)

8.

City	Temperature
Cardiff	–2 °C
Edinburgh	–4 °C
Leeds	2 °C
London	–1 °C
Plymouth	5 °C

The table gives information about the temperatures at midnight in 5 cities.

(a) Write down the lowest temperature. ..... °C

(1)

(b) Work out the difference in temperature between Cardiff and Plymouth.

..... °C

(1)

(c) Work out the temperature which is halfway between –1°C and 5°C.

..... °C

(1)

(3 marks)

9. Samina recorded the maximum temperature and the minimum temperature on each of six days in January.
The table shows her results.

	Mon	**Tues**	**Wed**	**Thurs**	**Fri**	**Sat**
Maximum temperature	1 °C	3 °C	2 °C	0 °C	3 °C	4 °C
Minimum temperature	–4 °C	–2 °C	–4 °C	–5 °C	–3 °C	–2 °C

(a) Write down the lowest temperature.

..... °C
(1)

(b) Work out the difference between the maximum temperature on Wednesday and the minimum temperature on Wednesday.

..... °C
(1)

The minimum temperature on Sunday was 5 °C higher than the minimum temperature on Saturday.

(c) Work out the minimum temperature on Sunday.

..... °C
(1)

(3 marks)

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10. The table shows the temperature on the surface of each of five planets.

Planet	**Temperature**
Venus	480 °C
Mars	– 60 °C
Jupiter	– 150 °C
Saturn	– 180 °C
Uranus	– 210 °C

(a) Work out the difference in temperature between Mars and Jupiter.

……°C
(1)

(b) Work out the difference in temperature between Venus and Mars.

……°C
(1)

(c) Which planet has a temperature 30 °C higher than the temperature on Saturn?

……
(1)

The temperature on Pluto is 20 °C lower than the temperature on Uranus.

(d) Work out the temperature on Pluto. ……°C **(1)**

(4 marks)

11. The table shows the highest and lowest temperatures one day in London and Moscow.

	Highest	**Lowest**
London	8°C	–6°C
Moscow	–3°C	–8°C

(a) Work out the difference between the **lowest** temperature in London and the **lowest** temperature in Moscow.

..... °C

(1)

(b) Work out the difference between the **highest** and **lowest** temperature in London.

..... °C

(1)

(2 marks)

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12. At midnight, the temperature was –5°C.

By 9 am the next morning, the temperature had increased by 3°C.

(a) Work out the temperature at 9 am the next morning.

…….°C

(1)

At midday, the temperature was 7°C.

(b) Work out the difference between the temperature at midday and the temperature at midnight.

…….°C

(2)

(c) Work out the temperature which is halfway between –5°C and 7°C.

…….°C

(1)

(4 marks)