1.8 Negative Numbers: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Work out the value of each of the following.

(a) -7 x 4 **(1)**

.....

(b) -36 / -9 **(1)**

.....

(c) 8 x (-5) **(1)**

.....

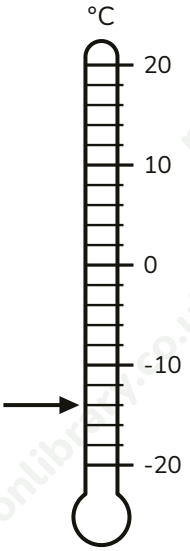
(d) -45 / 5 **(1)**

.....

(Total for Question 1 is 4 marks)

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2 Here is a thermometer.



(a) Write down the temperature shown on the thermometer. **(1)**

.....

(b) The temperature is forecast to rise by 20°C by midday. Work out the midday temperature. **(2)**

.....

(Total for Question 2 is 3 marks)

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3 Work out -3 + 7.

(Total for Question 3 is 1 mark)

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4 Work out 5 + (-9).

(Total for Question 4 is 1 mark)

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5 Work out (-4) - 6.

(Total for Question 5 is 1 mark)

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6 Work out (-7) + (-8).

(Total for Question 6 is 1 mark)

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7 Work out -8 + 3.

(Total for Question 7 is 1 mark)

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8 Work out 4 - 10.

(Total for Question 8 is 1 mark)

---

9 Work out (-5) - (-9).

(Total for Question 9 is 1 mark)

---

10 Work out -12 + (-7).

(Total for Question 10 is 1 mark)

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11 a = -3, b = 5, c = -2

(a) Work out a + b **(1)**

.....

(b) Work out b - a **(1)**

.....

(c) Work out a x c **(1)**

.....

(d) Work out bc - a **(2)**

.....

(Total for Question 11 is 5 marks)

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12 Work out the value of each of the following.

(a) $(-5)^2$ **(1)**

.....

(b) $-(5^2)$ **(1)**

.....

(c) $(-2)^3$ **(2)**

.....

(Total for Question 12 is 4 marks)

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13 Work out the value of each of the following.

(a) -2.5 + 6.8 **(2)**

(b) -0.6 x 5 **(2)**

(Total for Question 13 is 4 marks)

---

14 Work out -7 / (-1)

(Total for Question 14 is 1 mark)

---

15 Work out -11 + (-6)

(Total for Question 15 is 1 mark)

---

16 At 6 am the temperature is -13°C. Over the next three hours it changes by -7, +8, -2°C in turn. Work out the temperature at the end of the three hours.

(Total for Question 16 is 3 marks)

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17 Priya's bank account balance is -£35.

(a) She pays in £50. Work out her new balance. **(2)**

(b) She then spends £68 on a train ticket. Work out her new balance. **(2)**

(Total for Question 17 is 4 marks)

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18 Here are the first five terms of a number sequence: 15, 9, 3, -3, -9

(a) Write down the next term in the sequence. **(1)**

.....

(b) By continuing the pattern backwards, work out the term that comes immediately before 15 in the sequence. **(2)**

.....

(Total for Question 18 is 3 marks)

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19 Priya and Tomasz are comparing scores in a quiz. A wrong answer scores negative points.
Priya's scores in four rounds: -3, 5, -2, 6
Tomasz's scores in four rounds: 2, -1, 4, -3

(a) Work out Priya's total score. **(2)**

.....

(b) Work out Tomasz's total score. **(2)**

.....

(c) Priya says: 'I scored more than double Tomasz's total.' Is Priya correct? Show working to justify your answer. **(2)**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(Total for Question 19 is 6 marks)

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Mark scheme · 1.8 Negative Numbers: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

(a) -28 cao **B1**

(a) Answer: -28

(b) 4 cao **B1**

(b) Answer: 4

(c) -40 cao **B1**

(c) Answer: -40

(d) -9 cao **B1**

(d) Answer: -9

Question 2

(a) -14 cao **B1**

(a) Answer: -14

(b) -14 + 20 oe, ft from (a) **M1**

(b) 6 (°C) cao ft **A1**

(b) Answer: 6°C

Question 3

4 cao **B1**

Answer: 4

Question 4

-4 cao **B1**

Answer: -4

Question 5

-10 cao **B1**

Answer: -10

Question 6

-15 cao **B1**

Answer: -15

Question 7

-5 cao **B1**

Answer: -5

Question 8

-6 cao **B1**

Answer: -6

Question 9

4 cao **B1**

Answer: 4

Question 10

-19 cao **B1**

Answer: -19

Question 11

(a) 2 cao **B1**

(a) Answer: 2

(b) 8 cao **B1**

(b) Answer: 8

(c) 6 cao **B1**

(c) Answer: 6

(d) bc = 5 x (-2) = -10 seen **M1**

(d) -7 cao **A1**

(d) Answer: -7

Question 12

(a) 25 cao **B1**

(a) Answer: 25

(b) -25 cao **B1**

(b) Answer: -25

(c) (-2) x (-2) x (-2) oe, or -2 x -2 = 4 seen **M1**

(c) -8 cao **A1**

(c) Answer: -8

Question 13

(a) correct method e.g. 6.8 - 2.5 shown **M1**

(a) 4.3 cao **A1**

(a) Answer: 4.3

(b) 0.6 x 5 = 3 seen **M1**

(b) -3 cao (accept -3.0) **A1**

(b) Answer: -3

Question 14

7 cao **B1**

Answer: 7

Question 15

-17 cao **B1**

Answer: -17

Question 16

adds the changes to the start temperature **M1**

a complete correct method **M1**

-14°C cao **A1**

Answer: -14°C

Question 17

(a) -35 + 50 oe **M1**

(a) 15 (pounds) cao, or £15 **A1**

(a) Answer: £15

(b) 15 - 68 oe, ft from (a) **M1**

(b) -53 (pounds) cao ft **A1**

(b) Answer: -£53

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Question 18

(a) -15 cao **B1**

(a) Answer: -15

(b) correct method reversing the term-to-term rule, e.g. 15 + 6 **M1**

(b) 21 cao **A1**

(b) Answer: 21

Question 19

(a) -3 + 5 - 2 + 6 oe, or correct partial sum shown **M1**

(a) 6 cao **A1**

(a) Answer: 6

(b) 2 - 1 + 4 - 3 oe, or correct partial sum shown **M1**

(b) 2 cao **A1**

(b) Answer: 2

(c) double of Tomasz's total found, 2 x 2 = 4, ft from (b) **M1**

(c) correct conclusion with comparison shown, e.g. 'Yes, since 6 > 4' cso ft **A1**

(c) Answer: Yes, Priya is correct; double Tomasz's total is 4, and Priya's total of 6 is more than 4.

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