

GCSE Maths: Negative numbers (Higher): answers

GCSE Maths - Number Basics - Higher - Lesson 1.5

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch01-number-basics/higher/negative-numbers/

Exercise 1E Negative numbers Non-calculator

1 Write each list in order, starting with the smallest.

(a) -5, 3, -8, 0, -1

Answer: -8, -5, -1, 0, 3

(b) -0.5, -0.45, -0.55, 0.4

Answer: -0.55, -0.5, -0.45, 0.4

(c) -12, -2, 7, -21 (largest first)

Answer: 7, -2, -12, -21

2 Put < or > between each pair of numbers.

(a) -3 ? -5

Answer: >

(b) -7 ? 2

Answer: <

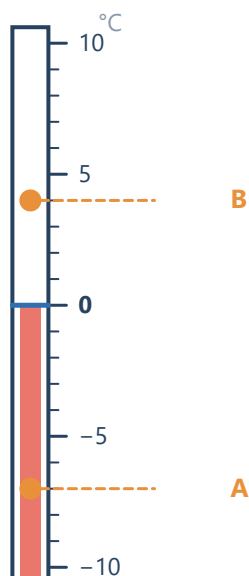
(c) -0.4 ? -0.04

Answer: <

(d) -12 ? -21

Answer: >

3 The diagram shows a thermometer.



(a) Write down the temperature at A.

Answer: -7°C

(b) Write down the temperature at B.

Answer: 4°C

(c) Which is colder, A or B?

Answer: A

(d) Work out the difference between the two temperatures.

Answer: 11 degrees

4 Work out each calculation.

(a) $-3 + 5$

Answer: 2

(b) $4 - 9$

Answer: -5

(c) $-7 - 2$

Answer: -9

(d) $6 - (-4)$

Answer: 10

(e) $-5 + (-3)$

Answer: -8

(f) $-2 - (-8)$

Answer: 6

5 Work out each calculation.

(a) $(-6) \times 7$

Answer: -42

(b) $8 \times (-5)$

Answer: -40

(c) $(-9) \times (-4)$

Answer: 36

(d) $-24 \div 4$

Answer: -6

(e) $36 \div (-9)$

Answer: -4

(f) $-45 \div (-5)$

Answer: 9

6 At night the temperature in a town is -8°C .

(a) By midday it has risen by 15 degrees. Work out the temperature at midday.

Answer: 7°C

(b) By evening it has fallen by 9 degrees from the midday temperature. Work out the evening temperature.

Answer: -2°C

7 Jo has £120 in her bank account.

(a) She pays a bill of £175. Work out her new balance.

Answer: $-\text{£}55$ (she is overdrawn by £55)

(b) She then pays in £60. Work out her balance now.

Answer: £5 (she is back in credit)

8 A lift starts at floor -2 (below ground). It goes up 7 floors, then down 4 floors. Which floor is it on now?

Answer: 1

9 Write down the number that is halfway between -7 and 3 .

Answer: -2

10 Decide whether each statement is correct. Explain your answer.

(a) Tom says that $-3 - 4 = 1$.

Answer: No. $-3 - 4 = -7$

(b) Hannah says that $-5 + (-3)$ is the same as $-5 - 3$.

Answer: Yes. Both equal -8

11 Work out $(-3) \times 4 - (-2) \times (-5)$.

Answer: -22

12 Work out $(-2 + (-7)) \times (4 - 9)$.

Answer: 45

13 Complete the pattern $(-5) \times 4 = -20$, $(-5) \times 3 = -15$, $(-5) \times 2 = -10$, ... Use it to explain why $(-5) \times (-4) = 20$.

Answer: $(-5) \times (-4) = 20$

14 At 6 pm the temperature is 3°C . It falls steadily by 2.5°C every hour. Work out the temperature at midnight.

Answer: -12°C

15 Find two negative numbers whose product is 12 and whose sum is -7 .

Answer: -3 and -4

16 Is each statement **always true**, **sometimes true** or **never true**? Give an example to explain.

(a) The sum of two negative numbers is negative.

Answer: Always true

(b) The product of two negative numbers is negative.

Answer: Never true

(c) Subtracting a number from 5 gives an answer less than 5.

Answer: Sometimes true