

GCSE Maths: Inequality symbols (Higher): worksheet

GCSE Maths - Inequalities - Higher - Lesson 10.1

Name: _____

Date: _____

Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch10-inequalities/higher/inequality-symbols/

Exercise 10A Reading and writing inequalities Non-calculator

1 Write $<$ or $>$ in each gap.

(a) $7 \quad \underline{\quad} \quad 3$

Answer: _____

(b) $2 \quad \underline{\quad} \quad 9$

Answer: _____

(c) $-4 \quad \underline{\quad} \quad 1$

Answer: _____

(d) $-3 \quad \underline{\quad} \quad -8$

Answer: _____

(e) $0.5 \quad \underline{\quad} \quad 0.25$

Answer: _____

(f) $-1.5 \quad \underline{\quad} \quad -1.2$

Answer: _____

2 Write whether each statement is true or false.

(a) $6 > 2$

Answer: _____

(b) $-5 > -2$

Answer: _____

(c) $4 \leq 4$

Answer: _____

(d) $9 \geq 10$

Answer: _____

(e) $-3 < -1$

Answer: _____

(f) $0 \geq -7$

Answer: _____

3 Write each statement as an inequality.

(a) A lift can carry at most 8 people. Use p for the number of people.

Answer: _____

(b) You must be at least 14 years old to join. Use a for the age in years.

Answer:

(c) The temperature, t °C, is less than 0°C.

Answer:

(d) A parcel must weigh no more than 2 kg. Use w for the mass in kg.

Answer:

(e) More than 500 people came to the match. Use n for the number of people.

Answer:

(f) A pupil needs a minimum of 40 marks to pass. Use m for the marks.

Answer:

4 Write each inequality in words, starting with the letter.

(a) $x > 5$

Answer:

(b) $n \leq 3$

Answer:

(c) $y \geq 10$

Answer:

(d) $t < 0.5$

Answer:

(e) $a < -4$

Answer:

(f) $k \geq 0$

Answer:

5 Here is an inequality: $x > 3$. Which of these numbers are solutions? 1, 3, 3.1, 5, -4

Answer:

6 Here is an inequality: $x \leq -2$. Which of these numbers are solutions? -5, -2, -1, 0, -2.5

Answer:

7 Write each rule as an inequality.

(a) A road sign says the maximum speed is 40 mph. Use s for the speed in mph.

Answer:

(b) A ride needs the rider's height, h cm, to be at least 120 cm.

Answer:

(c) A café has fewer than 25 customers. Use c for the number of customers.

Answer:

(d) A school needs over 90 volunteers. Use v for the number of volunteers.

Answer:

- 8** The speed limit on a road is 40 mph, so a driver's speed, s mph, must satisfy $s \leq 40$. Four cars are travelling at 38 mph, 40 mph, 43 mph and 39.5 mph. Which cars are obeying the limit?

Answer:

- 9** An airline allows bags of at most 23 kg. So a bag's mass, w kg, must satisfy $w \leq 23$. Which of these bags are allowed? 22.8 kg, 23 kg, 23.1 kg, 21.5 kg

Answer:

- 10** Write down all the whole numbers n that satisfy each inequality.

(a) $2 < n < 6$

Answer:

(b) $-3 \leq n < 1$

Answer:

(c) $0 < n \leq 4$

Answer:

(d) $-5 < n < -1$

Answer:

- 11** Explain why $5 \leq 5$ is a true statement, but $5 < 5$ is false.

Answer:

- 12** Amir writes $-9 > -3$. Is he correct? Give a reason.

Answer:

- 13** Ben writes "x is no more than 7" as $x \geq 7$. Explain his mistake and write the correct inequality.

Answer:

- 14** Write an inequality whose only whole-number solutions are 4, 5 and 6.

Answer:

- 15** n is a positive whole number and $n^2 < 20$. Write down all the possible values of n .

Answer: