

Understand and solve simple inequalities

1 Match the description with the inequality.

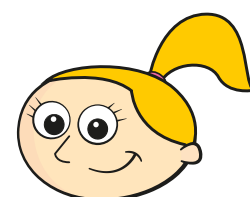
$t < 4$	t is less than or equal to 4
$t \geq 4$	t is less than 4
$t \leq 4$	t is greater than 4
$t > 4$	t is greater than or equal to 4

2 Describe the inequalities in words.

- a) $h > -2$ _____
- b) $4 \geq m$ _____
- c) $-2 \leq w < 6$ _____

3

If g is less than 4,
the largest number that
 g can be is 3



Do you agree with Eva? _____

Explain your answer.

4 Write 5 values that satisfy each inequality.

- a) $s < 8$

- b) $s > 8$

- c) $2s < 8$

- d) $2s > 8$

- e) $1 \leq s < 8$

5 Circle the value of m that does not satisfy the inequality.

- a) $m < 4$
0 6 -8 1.8
- b) $-2 \leq m < 5$
-2 -1 2 5
- c) $2m \geq -6$
12 0 -12 -3
- d) $2m - 5 \leq 0$
-5 2.5 0 5

6 Solve the inequalities.

- a) $x + 6 > 2$ b) $w - 12 \leq 2$ c) $2p \geq 8$

7 Filip is solving an equation.

$$\begin{array}{ccc}
 & 2x + 3 = 17 & \\
 -3 & \left\{ \begin{array}{c} \downarrow \\ \downarrow \end{array} \right. & -3 \\
 \div 2 & \left\{ \begin{array}{c} \downarrow \\ \downarrow \end{array} \right. & \div 2 \\
 & 2x = 14 & \\
 & x = 7 &
 \end{array}$$

Discuss how Filip can adapt this method to solve $2x + 3 < 17$

8 Solve the inequalities.

a) $5x + 2 > 27$

b) $3x - 9 \leq 36$

c) $4y - 3 < 15$

d) $10 < 3p - 1$

e) $12 \geq 7 + 4t$



9 Find all of the integer values that satisfy the inequalities.

a) $-4 \leq 2k < 11$

b) $-2 < k + 3 \leq 8.5$

c) $-3 \leq 2k + 3 \leq 3$

10 Esther is solving an inequality. Find and correct her mistake.

$$\begin{array}{ccc}
 & -3x + 8 < -4 & \\
 -8 & \left\{ \begin{array}{c} \downarrow \\ \downarrow \end{array} \right. & -8 \\
 \div -3 & \left\{ \begin{array}{c} \downarrow \\ \downarrow \end{array} \right. & \div -3 \\
 & -3x < -12 & \\
 & x < -4 &
 \end{array}$$

11 Solve the inequality $-6(5 - 2t) \geq -18$

