Guide to:
Inequalities on a number line

maths Links

Explanation:

On a number line, an **open (unshaded) circle** ○ is used for strict inequalities (**<** or **>**, where the endpoint is *not* included), and a **closed (filled) circle** ● is used for inclusive inequalities (**≤** or **≥**, where the endpoint *is* included).

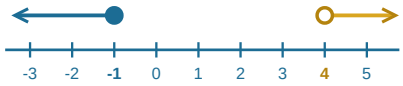
A single inequality has an arrow pointing left (**<** or **≤**) or right (**>** or **≥**). A double inequality like **$-2 < x \leq 3$** is drawn as a line segment joining two circles at −2 and 3. Remember that **integers** are whole numbers (positive, negative, or zero).

Example 1: Represent **$-2 < x \leq 3$** on a number line and list all **integers** that satisfy it.



Open circle at **−2** (<), closed circle at **3** (≤).
Integers: −1, 0, 1, 2, 3

Example 2: Write down the inequality shown on the number line below.



Filled at −1 (left) → **$x \leq -1$**; open at 4 (right) → **$x > 4$**
Answer: $x \leq -1$ or $x > 4$

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