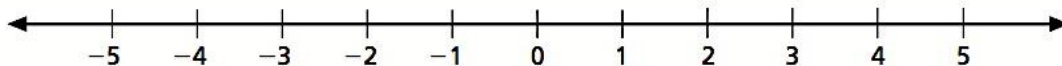


Graphing Inequalities

$$-1\frac{1}{2} \quad 2^2 \quad \pi \quad \sqrt{3} \quad -\frac{2}{9} \quad 4\frac{1}{4} \quad -3$$

Place a solid dot on the number line below to represent each number above. Label each dot with its number.



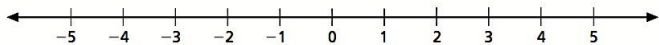
Using one of the symbols in the table below, write several true statements using different pairs of numbers above.

Symbol	Meaning
$>$	is greater than
$<$	is less than
\geq	is greater than or equal to
\leq	is less than or equal to

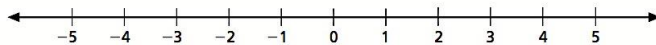
A mathematical sentence that contains one of the symbols $<$, $>$, \leq , \geq , or \neq is called an **inequality**.

Graphing equalities and inequalities:

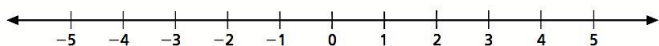
Graph $j = -2$



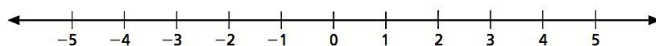
Graph the inequality $p \geq -2$



Graph the inequality $z < 3$



Graph the inequality $m \neq 2$



Interval notation is a way of expressing the solution set of an inequality using brackets $[]$ and parentheses $()$. Brackets indicate that the value is included in the set and parentheses indicate that every value up to, but not including, the value is in the set.

Is 4 a solution to each inequality below?

$x < 4.1$

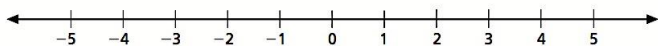
$x > 4$

$x \geq 4.1$

$x \geq 3.999$

Write then graph an inequality to represent this situation:

Grant decides not to spend more than \$4 at the store.



Why Did The Kangaroo See A Psychiatrist?



Find the graph of the solution set of any inequality below in the corresponding column of graphs. Notice the letter next to it. Write this letter in each box that contains the number of that exercise. Keep working and you will discover the answer to the title question.

① $x < 1$		⑩ $x < -1$	
② $x \leq 1$		⑪ $-1 < x$	
③ $x > 1$		⑫ $3 \geq x$	
④ $x \geq 1$		⑬ $x < 3$	
⑤ $x \neq 1$		⑭ $x \neq 0$	
⑥ $x < -2$		⑮ $0 \leq x$	
⑦ $x > -2$		⑯ $0 \geq x$	
⑧ $x \leq -2$		⑰ $0 < x$	
⑨ $x \geq -2$		⑱ $0 > x$	

6	16	15	13	11	1	16	7	16	1	15	6	4	6	16	15	5	9	12	16	16	8	2	11	3	9	13	18	10	17	14	4
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