

Algebra 2
Lesson 2-Domain and Range
Mrs. Snow, Instructor

Number sets may be represented in several ways:

Words: The set of numbers on a six-sided die are 1 through 6.

Roster: {1, 2, 3, 4, 5, 6}

Set notation: $\{x \mid x \leq 5\}$ read as "the set of all x 's such that x is less than or equal to 5.

You have also used compound **inequalities** $\{1 < x \leq 6\}$

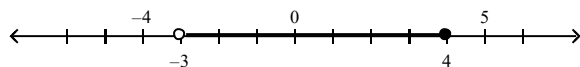
Interval Notation: $[1,6]$, states a set of numbers that are between two end points.

Brackets: [or] means the number is included,

Parentheses: (or) means number is not included.

Example:

The set of numbers depicted by the number line may be written in **interval notation:** $(-3, 4]$ or **set notation:** $\{x \mid -3 < x \leq 4\}$



The circle indicates not equal to -3 while the dot indicates that 4 is included in the set

Graph each set on a number line and write in interval notation form.

a. $\{x \mid x \leq 14\}$

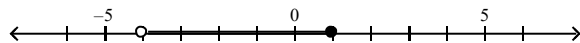
b. $\{x \mid -4 < x \leq 12\}$

c. $\{x \mid x \neq -3\}$

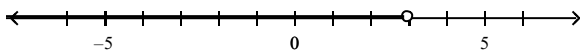
d. $\{x \mid x \neq 8 \text{ and } x \geq -2\}$

Use interval and set notation to represent each set of numbers.

a.

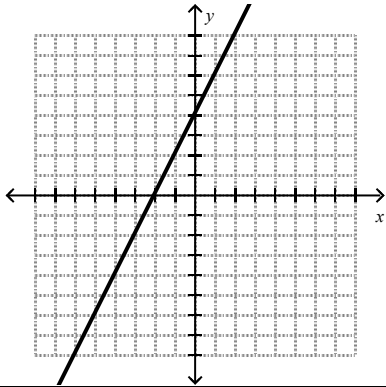


b.

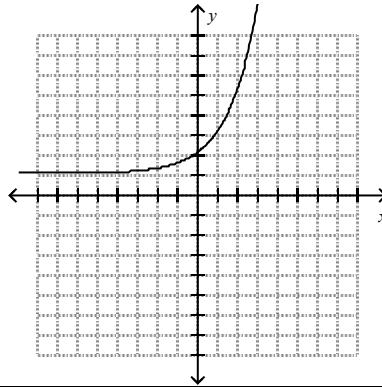


Write the domain and range for each graph, using both interval and set notation.

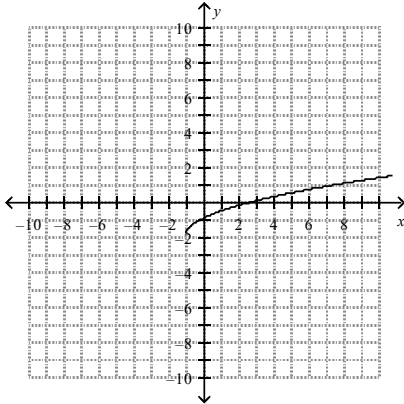
a.



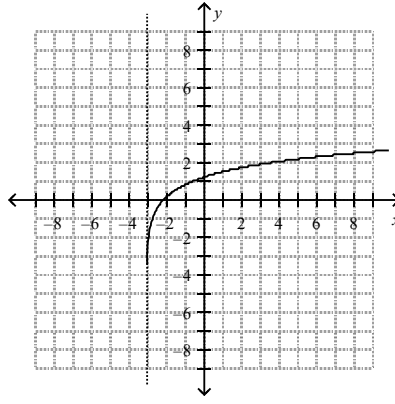
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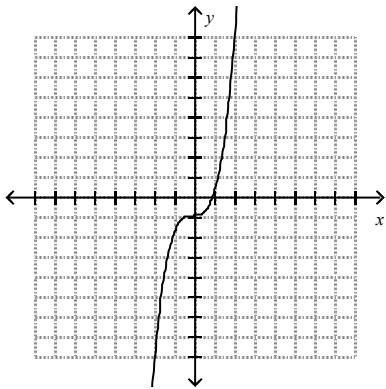
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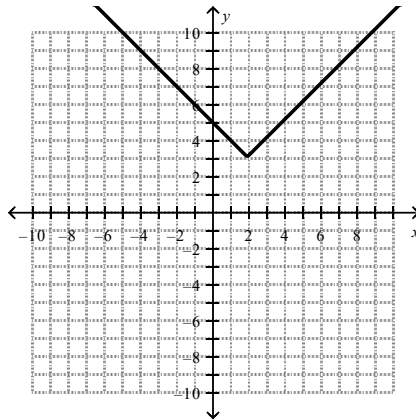
d.



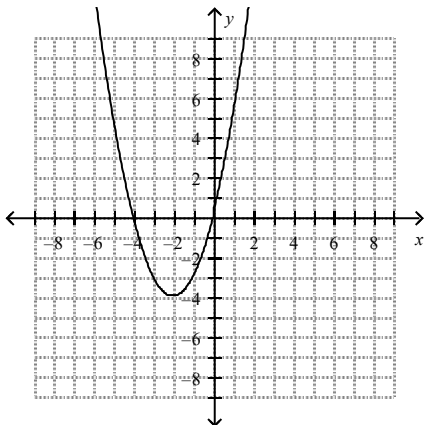
e.



f.



f.



g.

