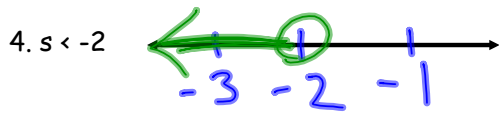## Algebra 1-2: Sets and Domains

Warm-Up

Graph on a number line.

1. x = 4

2. t = -3.5

3. u > 4

4. s < -2

$\geq$ $\}$ open circles
$\leq$ $\}$ closed circle
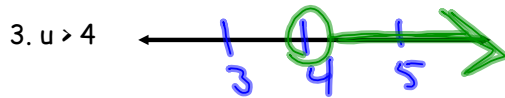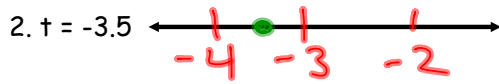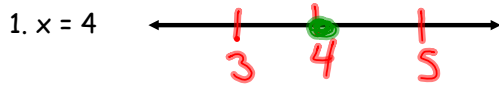
5. List 3 possible solutions for r if 7 < r.

   400, 10, 11   r > 7

6. List 3 possible solutions for s if -4 < s < 3.

   -2, 0, 2

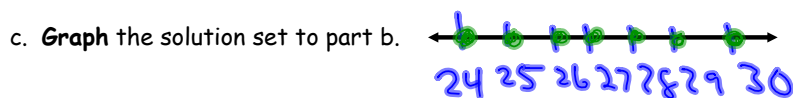| Vocabulary	Definition	Example
Set	a group of numbers	S = (6, 10, 22)
Types of Numbers	counting, whole, integers, Real	
Counting (Natural)	1, 2, 3, 4, 5, ...	
Whole	0, 1, 2, 3, 4, ...	
Integers	...-3, -2, -1, 0, 1, 2, 3, ...	
Real	any # - all of the above plus $\frac{2}{3}$, π, .25	
Domain	Types of #'s you can include in a set	S = students in Hr 2 Domain = Whole #'s
Reasonable Domain	a domain that makes sense	
Open vs. Closed Interval	open = open circles Closed = filled in circles	
Discrete vs. Continuous	Discrete = dots / Continuous =	
Element/Member	One number in a set	Ex) 6

All values in between

1. **Graph** all solutions to $x > 4$ for the given domain.

   a. Whole Numbers

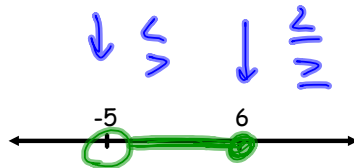   discrete

   b. Integers

   c. Real Numbers

   continuous
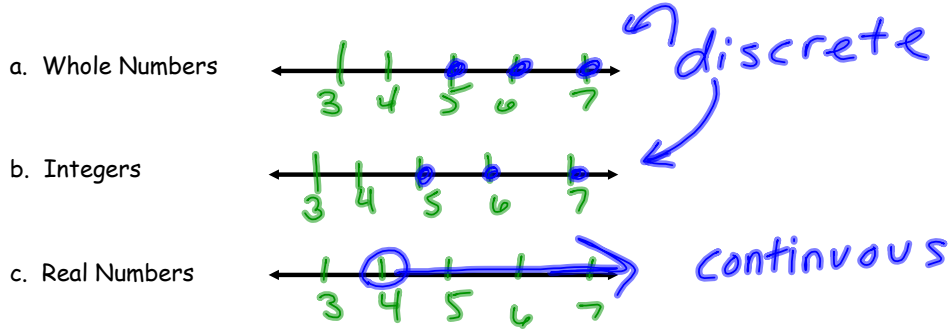
2. King's Used Cars sold from 24 to 30 cars each week last month. Let n = # of cars sold.

   a. Give the **domain** of n. _24, 25, 26, 27, 28, 29, 30_

   b. Write an **inequality** to describe n. _$24 \leq n \leq 30$_

   c. **Graph** the solution set to part b.

   24 25 26 27 28 29 30

3.
   $\downarrow \frac{\leq}{>}$ $\downarrow \frac{\leq}{\geq}$

   -5   6

   a. Write an **inequality** to describe the interval above. _$-5 < a \leq 6$_

   b. Is the interval **open, closed, or neither?** _neither_

   both open circles

   both closed circles

   1 of each