1. Practice converting among the various notations. For each set, fill in the missing notations.

Word description	Listing method	Set-builder notation
"the set of all whole numbers not greater than 4"	{0, 1, 2, 3, 4}	
		$\{ x \mid x \text{ is a negative multiple of 6} \}$
	{1, 2, 3, 4,}	
"the set of primary colors"		$\{x \mid x \text{ is a primary color}\}$
	{A, E, I, O, U}	

Always use set brackets with this notation.

2. Count the number of elements in each of the sets from above. The number of elements in a set is the **cardinality** of that set. The notation is pretty straightforward. If a set is called A, then the number of elements in a set is n(A).

$A = \text{``the set of all whole numbers not greater than 4''} \qquad \qquad n(A) = \\ B = \{ x \mid x \text{ is a negative multiple of 6} \} \qquad n(B) = \\ \hline C = \{1, 2, 3, 4,\} \qquad n(C) = \\ \hline P = \text{``the set of primary colors''} \qquad n(P) = \\ \hline V = \{A, E, I, O, U\} \qquad n(V) = \\ \hline \\ Some sets do not have a finite number of elements. You cannot count the number of elements. You cannot count the number of elements. We will not be doing this but it is covered in section 2.5.}$	Set	Cardinality	
You cannot count the number of elements. Finding the cardinality of these sets is much harder. We will not be doing this but it is covered in section 2.5		n(A) =	
P = "the set of primary colors" n(P) = cardinality of these sets is much harder. We will not be doing this but it is covered in section 2.5	$B = \{ x \mid x \text{ is a negative multiple of 6} \}$	n(B) =	You cannot count the number
P = the set of primary colors $n(P) = $ doing this but it is covered in	$C = \{1, 2, 3, 4, \dots\}$	n(C) =	cardinality of these sets is
$V = \{A, E, I, O, U\}$ section 2.5.	P = "the set of primary colors"	n(P) =	doing this but it is covered in
	$V = \{A, E, I, O, U\}$	n(V) =	section 2.5.

3. Use the sets defined above (A, B, C, P, and V). Circle the true statements and cross out the false statements.

a.) 3 ∈ A	d.) There are elements that are in both sets	g.) R ∈ V
	A and B.	
b.) -60 ∈ B	e.) Green ∈ P	h.) E ∈ V
c.) 10 ∈ A	f.) There are elements that are in both sets	i.) 12 ∈ C
	A and C.	