

**I. Complete the chart below using the appropriate notation(s).**

	Inequality Notation	Interval Notation	Graph (on a number line)
1.)	$x \leq -2$		
2.)		$[-1, \infty)$	
3.)	$0 < x \leq 4$		
4.)			
5.)		$(-\infty, -3)$	
6.)	$x > 0$		
7.)			
8.)		$(-\infty, -2] \cup (3, \infty)$	
9.)			
10.)	$x \geq 1, \text{ but } x \neq 3$		
11.)	$-2 \leq x \leq 4, x \neq 1$		
12.)	$\mathbb{R}, \text{ but } x \neq -2, 0$		
13.)			
14.)			

**II. State the domain and range of each given graph as an inequality and as an interval.**

Problem # 15	Problem # 16	Problem # 17	Problem # 18
D/R – Using an Interval D: _____ R: _____	D/R – Using an Interval D: _____ R: _____	D/R – Using an Interval D: _____ R: _____	D/R – Using an Interval D: _____ R: _____

**III. a.) Draw in the original parent graph in BLACK PEN and transformed in COLOR PEN.  
b.) State the domain and range of the given function in interval notation.**

<p>19.) Given: <math>y = (x - 2)^2 - 4</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>20.) Given: <math>y = \sqrt[3]{x + 3} - 1</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>21.) Given: <math>y =  x + 11  + 2</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>
<p>22.) Given: <math>y = \sqrt{x - 1} + 3</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>23.) Given: <math>y = (x + 2)^3 + 1</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>24.) Given: <math>y = \sqrt[3]{x - 2} + 4</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>
<p>25.) Given: <math>y =  x - 2  - 3</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>26.) Given: <math>y = (x - 4)^2 + 2</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>	<p>27.) Given: <math>y = \sqrt{x + 3} - 4</math></p> <p>Transformations: _____</p> <p>Domain (of given funct): _____</p> <p>Range (of given funct): _____</p>