Domain and Range

Version 1

Name: _____ **Date**: _____ **Score**: _____

Direction: Find the domain and range of each function. Show all your work in the space provided.

1) $y = x^2 - 3$

2) $y = -x^2 + 4$

3) $y = \sqrt{x-5}$

4) $y = \dfrac{1}{x+1}$

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1) $y = x^2 - 3$

	Set Notation	*Interval Notation*
Domain	$\{x \in \mathbb{R}\}$	$(-\infty, \infty)$
Range	$\{y \in \mathbb{R} \mid y \geq -3\}$	$[-3, \infty)$

2) $y = -x^2 + 4$

	Set Notation	*Interval Notation*
Domain	$\{x \in \mathbb{R}\}$	$(-\infty, \infty)$
Range	$\{y \in \mathbb{R} \mid y \leq 4\}$	$(-\infty, 4]$

3) $y = \sqrt{x-5}$

	Set Notation	*Interval Notation*
Domain	$\{x \in \mathbb{R} \mid x \geq 5\}$	$[5, \infty)$
Range	$\{y \in \mathbb{R} \mid y \geq 0\}$	$[0, \infty)$

4) $y = \dfrac{1}{x+1}$

	Set Notation	*Interval Notation*
Domain	$\{x \in \mathbb{R} \mid x \neq -1\}$	$(-\infty, -1) \cup (-1, \infty)$
Range	$\{y \in \mathbb{R} \mid y \neq 0\}$	$(-\infty, 0) \cup (0, \infty)$