

Name: Selected Answers

Date: _____

Homework: Unit 1 – Foundations

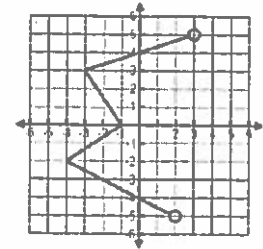
Honors PreCalculus

All homework must be completed NEATLY on your own paper.

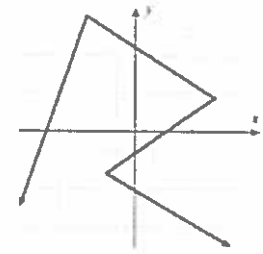
Homework 1.4: Domain and Range

For each graph, (a) determine if it is a function, (b) determine if it is a one-to-one function, (c) determine if it is continuous, and (d) state the Domain and Range using Set-Builder and Interval Notation,

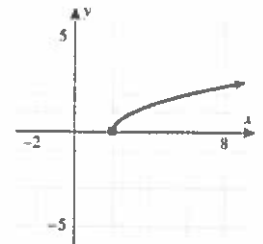
1. Function? No One-to-One Function? _____
 Continuous? _____
 Domain: Set-Builder _____ Interval Notation $[-4, 3)$
 Range: Set-Builder _____ Interval Notation $(-5, 5)$



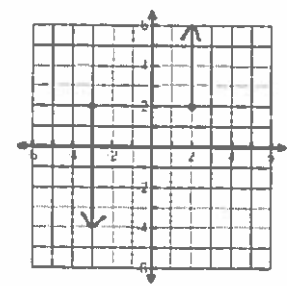
2. Function? _____ One-to-One Function? No
 Continuous? _____
 Domain: Set-Builder $\{x | x \in \mathbb{R}\}$ Interval Notation _____
 Range: Set-Builder $\{y | y \leq 6\}$ Interval Notation _____



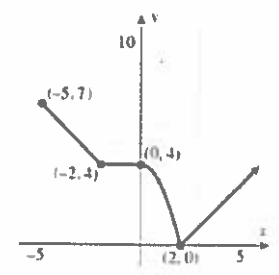
3. Function? _____ One-to-One Function? _____
 Continuous? _____
 Domain: Set-Builder _____ Interval Notation _____
 Range: Set-Builder _____ Interval Notation _____



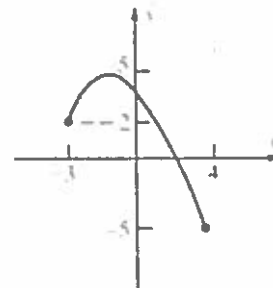
4. Function? _____ One-to-One Function? _____
 Continuous? _____
 Domain: Set-Builder _____ Interval Notation $[-3] \cup [2]$
 Range: Set-Builder _____ Interval Notation $(-\infty, \infty)$



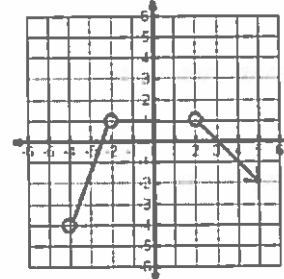
5. Function? _____ One-to-One Function? _____
 Continuous? Yes
 Domain: Set-Builder _____ Interval Notation _____
 Range: Set-Builder $\{y | y \geq 0\}$ Interval Notation $[0, \infty)$



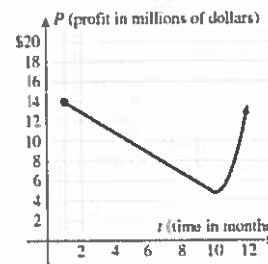
6. Function? _____ One-to-One Function? No
 Continuous? _____
 Domain: Set-Builder _____ Interval Notation _____
 Range: Set-Builder _____ Interval Notation _____



7. Function? _____ One-to-One Function? _____
 Continuous? No
 Domain: Set-Builder _____ Interval Notation _____
 Range: Set-Builder _____ Interval Notation $(-\infty, 1]$
 $(-4, -2) \cup (-2, 2) \cup (2, \infty)$



8. Function? Yes One-to-One Function? _____
 Continuous? _____
 Domain: Set-Builder $\{x \mid x \geq 1\}$ Interval Notation _____
 Range: Set-Builder _____ Interval Notation $[5, \infty)$



Use your graphing calculator to find the domain and range of each function. State your domain and range in both Set-builder and Interval notation.

9. $f(x) = x^2 - 1$ Domain: $\{x \mid x \in \mathbb{R}\}$ $(-\infty, \infty)$
 Range: _____

10. $\sqrt{2x - 4} + 5$ Domain: _____
 Range: $\{y \mid y \geq 5\}$ $[5, \infty)$

11. $f(x) = \frac{2x+4}{x-1}$ Domain: _____
 Range: $\{y \mid y \neq 2\}$ or $\{y \mid y < 2 \text{ or } y > 2\}$ $(-\infty, 2) \cup (2, \infty)$