

3-2 D1 Notes

Thursday, January 25, 2024 8:41 AM

Vocabulary.

Domain: Set of all possible inputs, usually x s.

Range: Set of all possible outputs, usually y s

Function: A rule or a map (a relation) that assigns each value of the domain to exactly one value of the range.

Identify the parts of a function:

Name of function $f(x)$ input x Rule $= x^2 + 3x + 5$
output acts like y

State which of the following relations are functions.

If it is not a function, state the input(s) that makes it not a function.

4. $\{(-3, -1), (-1, -1), (0, 1), (2, 6)\}$

Function

8. $\{(3, 1), (3, 2), (3, 3), (3, 4)\}$

3 has 4 different outputs
Not a function

Given $f(x) = 5x - 4$, $G(t) = 4 - 3t$, $q(r) = r^2 - 4$ evaluate:

10) $f(-4) = 5(-4) - 4$
 $= -20 - 4 = -24$

12) $q(3) = (3)^2 - 4 = 9 - 4$
 $= 5$

14) $G(6) = 4 - 3(6) = 4 - 18$
 $= -14$

16) $f(t) = 5(t) - 4$
 $= 5t - 4$

18) $q(8) = (8)^2 - 4 = 64 - 4$
 $= 60$

36. Given $G(t) = 9 - 2t$, write $G(-3+h) - G(-3)$ in simplest form.

$$\begin{aligned} & [9 - 2(-3+h)] - [9 - 2(-3)] \\ & [9 + 6 - 2h] - [9 + 6] \\ & 15 - 2h - 15 = -2h \end{aligned}$$

Implied Domain:

If not specified, it starts as $\mathbb{R}$, but can't make a denominator $= 0$

What values are excluded from the domain of the function?

56. $F(x) = \frac{2x - 5}{x - 4}$

x can't equal 4

62. $g(x) = \frac{2x + 5}{7}$

no exclusions

