

Advanced Math 120

Function Notation & Domain Worksheet

Name: _____

Unit 2 | Lesson 1

1. If $f(x) = 3x + 4$, find the value of $f(3)$, $f(-1)$ and $f(2a)$.
2. If $g(x) = 2x^2 - 4x$, find the value of $g(2)$, $g(-3)$ and $g(2a)$.
3. Write the following in function notation: $f : x \rightarrow 3x - 1$, $g : x \rightarrow \frac{1}{2x - 1}$.
4. For the function $g(x) = 3(2x + 1)$, find $g(0)$ and $g\left(\frac{1}{k}\right)$.
5. If $f(x) = x^2 - 2$, find $f(-x)$, $f(x-2)$ and $-2f(x)$.
6. If $h(x) = \frac{x+2}{x+3}$, what expression is represented by $h\left(\frac{x+1}{x}\right)$?

Find the domains of each of the following functions:

7. $f(x) = 2x - 24$
8. $g(x) = x^5 - 2x$
9. $h(x) = \sqrt{x}$
10. $G(x) = \sqrt{9 - x}$
11. $g(x) = \sqrt{9 - x^2}$
12. $h(x) = \sqrt{9 + x^2}$
13. $F(x) = \sqrt{x^2 - 9}$
14. $H(x) = \frac{1}{\sqrt{x+3}}$
15. $F(x) = \frac{2x}{4x-1}$
16. $f(x) = \frac{x^2 + 2}{(x-2)(x-1)}$
17. $G(x) = \frac{1}{x^2 + 2x - 8}$