ARMS
ACADEMY

Calculus

Ch 1.1

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ARMS ACADEMY

1- Write the domain of the function. $f(x) = \dfrac{x-1}{x^2-4}$

$x^2 - 4 \neq 0$

$\sqrt{x^2} \neq \sqrt{4}$

$x \neq \pm 2$

$\mathbb{R} - \{-2, 2\}$

2-If f(x) is an even function and g(x) is an odd function,

and $f(x) = x^2$, $g(x) = x^3$

find *(f-g) (x)* **and determine whether the resulting function is even, odd, or neither.**

$f - g = x^2 - x^3$

$f - g(-x) = (-x)^2 - (-x)^3$

$= x^2 - (-x^3)$

$= x^2 + x^3$ not even

$-(x^2 - x^3) = -x^2 + x^3 \neq f - g(-x)$

The function is neither

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3- For the function $f(x)=\sqrt{x+5^3}$

find its natural domain

$f(x)=\sqrt{x+5^3}$

$x+5^3 \geq 0$

$x+125 \geq 0$

$x \geq -125$

$[-125, \infty)$

ARMS ACADEMY

Find the domain and range of the function represented by the points .

$(0,2),(1,3),(2,4),(3,5),(4,6)$

$x_1\ y_1 \quad x_2\ y_2 \quad x_3\ y_3 \quad x_4\ y_4 \quad x_5\ y_5$

Domain = x قيم

Range = y قيم

Domain = $\{0,1,2,3,4\}$

Range = $\{2,3,4,5,6\}$

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Calculus

Ch 1.3

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