

Calculus Worksheet: Domain and Range (1)

1. Find the domain of the following functions

a) $f(x) = \frac{1}{x-2}$

b) $g(x) = \frac{1}{x^4 + 2}$

c) $h(x) = \ln(x^2 - 9)$

d) $i(x) = \sqrt{2 - \sqrt{x+2}}$

$$\text{e) } j(x) = \frac{1}{x^3 - 2}$$

$$\text{f) } k(x) = \frac{1}{2 - \sqrt{x^2 - 1}}$$

$$\text{g) } l(x) = \frac{\sqrt{x+8}}{(x-6)\sqrt{|x|-4}}$$

2. Find the range of the following functions

$$\text{a) } f(x) = |x+2| - 5$$

$$\text{b) } g(x) = 2 + \sqrt{x+5}$$

c) $h(x) = x^2 + 4x + 8$

d) $i(x) = \frac{4x}{x+6}$

e) $j(x) = 3x^4 - 4x^3 - 12x^2$

3. Let $f(x) = \ln(x), x > 0$ and $g(x) = 16 - x^2$.

Find the domain and range of $f(g(x))$

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