

Q.1 Draw the graphs of the following real functions and hence find their

Range:

(a) $f(x) = 2x - 1$

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

Q.2 Let f be a function defined by $f : x \rightarrow 5x^2 + 2, x \in R$

(a) Find the image of 5 under f

(b) Find $f(-3) + f(2)$

(c) Find x such that $f(x) = 82$.

Q.3 Find domain of the function $f(x) = \frac{[x]}{\sqrt{1+[x]}}$

Q.4 Let $f(x) = x + 1$ and $g(x) = 2x - 3$ be two Real functions. Find the following functions:

(a) $(f + g)(x)$

(b) $(f - g)(x)$

(c) $(fg)(x)$

(d) $\left(\frac{f}{g}\right)(x)$

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

(f) $(fg + 2f)(x)$

Q.5 Find the domain and Range of the function $f(x) = \frac{1}{\sqrt{5-x}}$