12/09/xx Class-XI(MATHS) K. Kanhaiya

1) Let $f(x) = x^2$, $g(x) = 2x+1$, be two real functions. Find

$(f+g)(x)$, $(f-g)(x)$, $(fg)(x)$, $\left(\frac{f}{g}\right)(x)$.

Ans

$(f+g)(x) = x^2 + 2x + 1$.

$(f-g)(x) = x^2 - (2x+1) = x^2 - 2x - 1$

$(fg)(x) = x^2(2x+1) = 2x^3 + x^2$

$\left(\frac{f}{g}\right)(x) = \frac{x^2}{2x+1}$.

Do yourself :-

1) Let $f(x) = \sqrt{x}$ and $g(x) = x$ be two functions defined over the set of non-negative real no.

Find, $(f+g)(x)$, $(f-g)(x)$, $(fg)(x)$ and $\left(\frac{f}{g}\right)(x)$.

8) The function 't' which maps temp in degree Celsius into temp in degree Fahrenheit is defined by

$$t(C) = \frac{9}{5}C + 32.$$

Find

(i) $t(0)$

(ii) $t(28)$

(iii) $t(-10)$

(iv) The value of C when $t(C) = 212$.

Illustration:

At $C = 0$

(i) $t(0) = \frac{9}{5} \times 0 + 32 = 32$

(ii) $t(28) = \frac{9}{5} \times 28 + 32$

$= 50.4 + 32$

$= 82.4$.