

10. A function $f : [-5, 9] \rightarrow \mathbb{R}$ is defined as follows :

$$f(x) = \begin{cases} 6x+1 & \text{if } -5 \leq x < 2 \\ 5x^2 - 1 & \text{if } 2 \leq x < 6 \\ 3x - 4 & \text{if } 6 \leq x \leq 9 \end{cases}$$

Find (i) $f(-3) + f(2)$ (ii) $f(7) - f(1)$

(iii) $2f(4) + f(8)$ (iv) $\frac{2f(-2) - f(6)}{f(4) + f(-2)}$

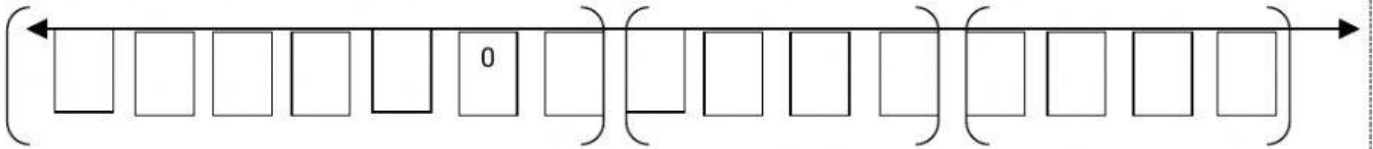
Solution :

$$\text{Given } f(x) = \begin{cases} 6x+1 & \text{if } -5 \leq x < 2 \\ 5x^2 - 1 & \text{if } 2 \leq x < 6 \\ 3x - 4 & \text{if } 6 \leq x < 9 \end{cases}$$

10. $f : [-5, 9] \rightarrow \mathbb{R}$ என்ற சார்பானது பின்வருமாறு வரையறுக்கப்படுகிறது

$$f(x) = \begin{cases} 6x + 1 ; & -5 \leq x < 2 \\ 5x^2 - 1 ; & 2 \leq x < 6 \\ 3x - 4 ; & 6 \leq x \leq 9 \end{cases} \text{ என வரையறுக்கப்படுகிறது எனில், பின்வருவனவற்றைக்}$$

காண்க. (i) $f(-3) + f(2)$ (ii) $f(7) - f(1)$ (iii) $2f(4) + f(8)$ (iv) $\frac{2f(-2) - f(6)}{f(4) + f(-2)}$



(i) $f(-3) + f(2)$

$$f(-3) = \boxed{}$$

$$f(2) = \boxed{}$$

$$= 6 \boxed{} + 1$$

$$= \boxed{} + 1$$

$$= \boxed{}$$

$$= 5 ()^2 - 1$$

$$= 5 () - 1$$

$$= - 1$$

$$f(-3) + f(2) = \boxed{} + \boxed{} = \boxed{}$$



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(ii) $f(7) - f(1)$

$$f(7) = \boxed{}$$

$$= 3\boxed{} - 4$$

$$= \boxed{} - 4$$

$$= \boxed{}$$

$$f(7) - f(1) = \boxed{} - \boxed{} = \boxed{}$$

$$f(1) = \boxed{}$$

$$= 6() + 1$$

$$= () + 1$$

$$=$$

(ii) $2f(4) + f(8)$

$$f(8) = \boxed{}$$

$$= 3\boxed{} - 4$$

$$= \boxed{} - 4$$

$$= \boxed{}$$

$$2f(4) + f(8) = 2\boxed{} + \boxed{} = \boxed{} + \boxed{} = \boxed{}$$

$$f(4) = \boxed{}$$

$$= 5()^2 - 1$$

$$= 5() - 1$$

$$= - 1$$

(iv) $\frac{2f(-2) - f(6)}{f(4) + f(-2)}$

$$f(4) =$$

$$= 5()^2 - 1$$

$$= 5() - 1$$

$$= - 1$$

$$f(-2) =$$

$$= 6() + 1$$

$$= () + 1$$

$$=$$



$$f(6) =$$

$$= 3 \boxed{} - 4$$

$$= \boxed{} - 4$$

$$= \boxed{}$$

$$(iv) \frac{2f(-2) - f(6)}{f(4) + f(-2)} = \frac{\boxed{2} \boxed{} - \boxed{}}{\boxed{} + \boxed{}}$$

$$= \frac{}{}$$

$$= \frac{}{}$$

