

Evaluating Piecewise Functions

A) Evaluate each function.

$$1) f(x) = \begin{cases} 10x & , x < -0.5 \\ \frac{x-1}{x} & , -0.5 \leq x < \infty \end{cases}$$

$$2) f(x) = \begin{cases} -x^2 + 6 & , -20 \leq x \leq \frac{5}{4} \\ x - 12 & , \frac{5}{4} < x \leq 20 \end{cases}$$

i) $f(-0.6) =$ _____

i) $f(-7) =$ _____

ii) $f(2) =$ _____

ii) $f(20) =$ _____

$$3) f(x) = \begin{cases} \frac{x+1}{2} & , x < 0 \\ -9 & , 0 \leq x < 7 \\ \frac{2x}{3} & , 7 \leq x < 10 \end{cases}$$

i) $f(-4) =$ _____

ii) $f(10) =$ _____

$$B) \text{ If } f(x) = \begin{cases} 3x^2 + 1 & , x < -2 \\ \frac{x}{5} & , -2 \leq x < 3 \\ \frac{x-8}{4} & , 3 \leq x < 10 \end{cases}$$

1) $8f\left(-\frac{5}{2}\right) + 5f(-1) =$ _____

3) $\frac{7f(5)}{f(-4)} =$ _____

4) $2f(1) \times f(-4.5) =$ _____

$$C) \text{ If } f(x) = \begin{cases} \frac{1}{9x-7} & , -15 \leq x < 0 \\ 18 & , x = 0 \\ x - \frac{2}{x} & , x > 0 \end{cases} \text{ , what is the value of } f\left(\frac{1}{6}\right)?$$

i) $\frac{11}{6}$

ii) $\frac{71}{6}$

iii) $-\frac{11}{6}$

iv) $-\frac{71}{6}$

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