

Evaluating Piecewise Functions

A) Evaluate each function.

$$1) f(x) = \begin{cases} x^2 - 9 & , -1 < x < \frac{5}{3} \\ \frac{x+2}{x-2} & , \frac{5}{3} < x \leq 10 \end{cases}$$

$$2) f(x) = \begin{cases} 3x^2 & , x < 0 \\ 1 & , x = 0 \\ -x - 1 & , 0 < x \end{cases}$$

i) $f(1) =$ _____

i) $f(0) =$ _____

ii) $f(5) =$ _____

ii) $f\left(-\frac{1}{2}\right) =$ _____

$$3) f(x) = \begin{cases} \frac{4}{(x+5)^2} & , -5 \leq x < 1 \\ -7 & , 1 \leq x < \infty \\ 2(x+4) & , \end{cases}$$

i) $f(-3.5) =$ _____

ii) $f(20) =$ _____

$$B) \text{ If } f(x) = \begin{cases} 6x^2 & , - \\ \frac{x^2-1}{(x+1)^2} & , 2 \\ x-3 & , 4 \end{cases}$$

1) $f(-3) + 8f(9.2) =$ _____

3) $3f\left(\frac{1}{2}\right) - f\left(\frac{1}{4}\right) =$ _____

4) $\frac{f\left(\frac{1}{3}\right)}{2f(2)} =$ _____

$$C) \text{ If } f(x) = \begin{cases} 28.25 & , 0 < x < 9 \\ x^2 - 7x & , 9 \leq x \leq 18 \end{cases} \text{ , what is the value of } f(10.5)?$$

i) -31.25

ii) 36.75

iii) 28.25

iv) 42.5

PREVIEW

Gain complete access to the largest collection of worksheets in all subjects!

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com

Evaluating Piecewise Functions

A) Evaluate each function.

$$1) f(x) = \begin{cases} x^2 - 9, & -1 < x < \frac{5}{3} \\ \frac{x+2}{x-2}, & \frac{5}{3} < x \leq 10 \end{cases}$$

$$2) f(x) = \begin{cases} 3x^2, & x < 0 \\ 1, & x = 0 \\ -x - 1, & 0 < x \end{cases}$$

i) $f(1) = \underline{\quad -8 \quad}$

i) $f(0) = \underline{\quad 1 \quad}$

ii) $f(5) = \underline{\quad \frac{7}{3} \text{ or } 2\frac{1}{3} \quad}$

ii) $f(-\frac{1}{2}) = \underline{\quad \frac{1}{12} \quad}$

$$3) f(x) = \begin{cases} \frac{4}{(x+5)^2}, & -5 \leq x < 1 \\ -7, & 1 \leq x < \infty \\ 2(x+4), & \end{cases}$$

i) $f(-3.5) = \underline{\quad -11.2 \quad}$

ii) $f(20) = \underline{\quad \frac{3}{4} \quad}$

B) If $f(x) = \begin{cases} 6x^2, & - \\ \frac{x^2-1}{(x+1)^2}, & 2 \\ x-3, & 4 \end{cases}$

1) $f(-3) + 8f(9.2) = \underline{\quad 135 \quad}$

3) $3f(\frac{1}{2}) - f(\frac{1}{4}) = \underline{\quad \frac{33}{8} \text{ or } 4\frac{1}{8} \quad}$ 4) $\frac{f(\frac{1}{3})}{2f(2)} = \underline{\quad 2 \quad}$

C) If $f(x) = \begin{cases} 28.25, & 0 < x < 9 \\ x^2 - 7x, & 9 \leq x \leq 18 \end{cases}$, what is the value of $f(10.5)$?

i) -31.25

ii) 36.75

iii) 28.25

iv) 42.5

PREVIEW

Gain complete access to the largest
collection of worksheets in all subjects!

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com