

Evaluating Piecewise Functions

A) Evaluate each function.

$$1) f(x) = \begin{cases} 7(x^2 - 5) & , -4.9 \leq x < 3 \\ \frac{x}{9} & , 3 \leq x \leq 14 \end{cases}$$

$$2) f(x) = \begin{cases} -2x - 7 & , 0 \leq x \leq 1 \\ \frac{2x + 7}{4} & , 1 < x \leq 16 \end{cases}$$

i) $f(3) =$ _____

i) $f(0.65) =$ _____

ii) $f(-3) =$ _____

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

$$3) f(x) = \begin{cases} (x-1)(x+1) & , x = -6 \\ \frac{x}{3-x} & , -6 < x \leq 7 \\ \frac{1}{x} & , 7 < x < \infty \end{cases}$$

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

ii) $f(2) =$ _____

$$B) \text{ If } f(x) = \begin{cases} \frac{3}{x} & , -\infty < x < -1 \\ \frac{4+x}{2x} & , \frac{1}{2} < x < 2 \\ -8 & , \frac{9}{2} < x < \infty \end{cases}$$

1) $f(6.5) - 6f(3) =$ _____

3) $3f\left(\frac{3}{2}\right) \times 5f\left(-\frac{5}{2}\right) =$ _____

4) $2f(11) + 4f(1) =$ _____

C) If $f(x) = \begin{cases} -x^2 & , -\infty < x \leq -5 \\ \frac{5x}{7} & , -5 < x < \infty \end{cases}$, what is the value of $f(-5.1)$?

i) 3.64

ii) $-\frac{25.5}{7}$

iii) -26.01

iv) 26.01

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Evaluating Piecewise Functions

A) Evaluate each function.

1) $f(x) = \begin{cases} 7(x^2 - 5) & , -4.9 \leq x < 3 \\ \frac{x}{9} & , 3 \leq x \leq 14 \end{cases}$

2) $f(x) = \begin{cases} -2x - 7 & , 0 \leq x \leq 1 \\ \frac{2x + 7}{4} & , 1 < x \leq 16 \end{cases}$

i) $f(3) = \underline{\underline{\frac{1}{3}}}$

i) $f(0.65) = \underline{\underline{-8.3}}$

ii) $f(-3) = \underline{\underline{28}}$

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

3) $f(x) = \begin{cases} (x-1)(x+1) & , x = -6 \\ \frac{x}{3-x} & , -6 < x \leq 7 \\ -8 & , 7 < x < \infty \end{cases}$

i) $f\left(-\frac{1}{4}\right) = \underline{\underline{0}}$

ii) $f(2) = \underline{\underline{-10}}$

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

1) $f(6.5) - 6f(3) = \underline{\underline{\frac{8}{3} \text{ or } 2\frac{2}{3}}}$

3) $3f\left(\frac{3}{2}\right) \times 5f\left(-\frac{5}{2}\right) = \underline{\underline{-33}}$

4) $2f(11) + 4f(1) = \underline{\underline{-6}}$

C) If $f(x) = \begin{cases} -x^2 & , -\infty < x \leq -5 \\ \frac{5x}{7} & , -5 < x < \infty \end{cases}$, what is the value of $f(-5.1)$?

i) 3.64

ii) $-\frac{25.5}{7}$

iii) -26.01

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