Name: _____

MS3

Evaluating Piecewise Functions

A) Evaluate each function.

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

i) $f(-0.6) =$ _____

ii) $f(2) =$ _____

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

i) $f(-7) =$ _____

ii) $f(20) =$ _____

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

i) $f(-4) =$ _____

ii) $f(10) =$ _____

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

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

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

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

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

i) $\dfrac{11}{6}$ ii) $\dfrac{71}{6}$ iii) $-\dfrac{11}{6}$ iv) $-\dfrac{71}{6}$