Algebra: Piecewise Defined Functions

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Name: _____ Date: _____ Score: / 8

DIRECTIONS *Evaluate the piecewise function at each x-value by choosing the correct piece.*

1 Evaluate f(4):

$$f(x)=\begin{cases}x^2&x\leq0\\2x+1&x>0\end{cases}$$

Answer: _____

2 Evaluate f(-1):

$$f(x)=\begin{cases}x^2&x\leq0\\2x+1&x>0\end{cases}$$

Answer: _____

3 Evaluate f(-1):

$$f(x)=\begin{cases}2x+1&x<0\\x^2-3&x\geq0\end{cases}$$

Answer: _____

4 Evaluate f(4):

$$f(x)=\begin{cases}x+4&x\leq1\\3x-2&x>1\end{cases}$$

Answer: _____

5 Evaluate f(0):

$$f(x)=\begin{cases}2x+1&x<0\\x^2-3&x\geq0\end{cases}$$

Answer: _____

6 Evaluate f(3):

$$f(x)=\begin{cases}-x+3&x<2\\x^2-1&x\geq2\end{cases}$$

Answer: _____

7 Evaluate f(0):

$$f(x)=\begin{cases}x+4&x\leq1\\3x-2&x>1\end{cases}$$

Answer: _____

8 Evaluate f(2):

$$f(x)=\begin{cases}-x+3&x<2\\x^2-1&x\geq2\end{cases}$$

Answer: _____

Answer Key & Solutions

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TEACHER NOTES *Students must check the condition for x first, then substitute into the matching rule.*

1 Evaluate f(4):

= $f(4) = 9$

f(x)=\begin{cases}x^2&x\leq0\\2x+1&x>0\end{cases}

2 Evaluate f(-1):

= $f(-1) = 1$

f(x)=\begin{cases}x^2&x\leq0\\2x+1&x>0\end{cases}

3 Evaluate f(-1):

= $f(-1) = -1$

f(x)=\begin{cases}2x+1&x<0\\x^2-3&x\geq0\end{cases}

4 Evaluate f(4):

= $f(4) = 10$

f(x)=\begin{cases}x+4&x\leq1\\3x-2&x>1\end{cases}

5 Evaluate f(0):

= $f(0) = -3$

f(x)=\begin{cases}2x+1&x<0\\x^2-3&x\geq0\end{cases}

6 Evaluate f(3):

= $f(3) = 8$

f(x)=\begin{cases}-x+3&x<2\\x^2-1&x\geq2\end{cases}

7 Evaluate f(0):

= $f(0) = 4$

f(x)=\begin{cases}x+4&x\leq1\\3x-2&x>1\end{cases}

8 Evaluate f(2):

= $f(2) = 3$

f(x)=\begin{cases}-x+3&x<2\\x^2-1&x\geq2\end{cases}