

**Math 3**  
**Unit 1 Day 6 CW**

**Group Members:**

$$f(x) = \begin{cases} 3x+5, & x < -1 \\ x^2, & -1 \leq x \leq 5 \\ 6, & x > 5 \end{cases} \quad g(x) = \begin{cases} \frac{1}{2}x-4, & x \leq -2 \\ 3-2x, & x > -2 \end{cases} \quad h(x) = \begin{cases} x^3, & x \leq 0 \\ -5, & 0 < x < 2 \\ -3x-1, & x \geq 2 \end{cases}$$

**Evaluate the following piecewise functions using  $f(x)$ ,  $g(x)$  and  $h(x)$ .**

1.  $f(-1)$
2.  $g(-1)$
3.  $h(1)$
4.  $2f(6) - 3f(0)$
5.  $3[h(-1) + 2h(7)]$
6.  $[g(3)]^2$
7.  $5f(-2) - g(-6) - 7h(-4)$

**Find the error(s) with the work below:** (Hint: there are three!)

$$\begin{aligned} & 3f(-1) + 2g(-2) - h(1) \\ & 3(3(-1) + 5) + 2\left(\frac{1}{2}(-2) - 4\right) - 5 \\ & 3(2) + 2(-5) - 5 \\ & 6 - 10 - 5 \\ & = -1 \end{aligned}$$

Give the correct answer: \_\_\_\_\_