5. Which of the following are correct calculations for difference quotient of:

$g(j) = j^2 + 5j + 2$

$g(j) = j^2 + 5j + 2$

$g(j+h) = (h+j)^2 + 5(h+j) + 2$

$= h^2 + 2hj + 5h + j^2 + 5j + 2$

$\frac{g(j+h)-g(j)}{h} = \frac{\left(h^2+2jh+5h+j^2+5j+2\right)-\left((j+1)^2+5(j+1)+2\right)}{h}$

$= \frac{h^2+2jh+5h}{h}$

$= \frac{h(h+2j+5)}{h}$

$= h + 2j + 5$

$g(j) = j^2 + 5j + 2$

$g(j+h) = (h+j)^2 + 5(h+j) + 2$

$= h^2 + 2hj + 7h + j^2 + 7j + 8$

$\frac{g(j+h)-g(j)}{h} = \frac{\left(h^2+2jh+7h+j^2+7j+8\right)-\left(j^2+5j+2\right)}{h}$

$= \frac{h^2+2jh+5h}{h}$

$= \frac{h(h+2j+5)}{h}$

$= h + 2j + 5$

$g(j) = j^2 + 5j + 2$

$g(j+h) = (h+j)^2 + 5(h+j) + 2$

$= h^2 + 2hj + 5h + j^2 + 5j + 2$

$\frac{g(j+h)-g(j)}{h} = \frac{\left(h^2+2jh+5h+j^2+5j+2\right)-\left(j^2+5j+2\right)}{h}$

$= \frac{h^2+2jh+5h}{h}$

$= \frac{h(h+2j+5)}{h}$

$= h + 2j + 5$

$g(j) = j^2 + 5j + 2$

$g(j+h) = (h+j)^2 + 5(h+j) + 2$

$= h^2 + 2hj + 3h + j^2 + 3j - 2$

$\frac{g(j+h)-g(j)}{h} = \frac{\left(h^2+2jh+9h+j^2+9j+16\right)-\left(j^2+5j+2\right)}{h}$

$= \frac{h^2+2jh+5h}{h}$

$= \frac{h(h+2(j+1)+5)}{h}$

$= h + 2j + 5$

Solution