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

$$f(s) = 2s^2 + 4s + 2$$

$f(s) = 2s^2 + 4s + 2$

$f(s+h) = 2(h+s)^2 + 4(h+s) + 2$

$= 2h^2 + 4hs + 4h + 2s^2 + 4s + 2$

$\dfrac{f(s+h) - f(s)}{h} = \dfrac{(2h^2 + 4sh + 4h + 2s^2 + 4s + 2) - (2(s+1)^2 + 4(s+1) + 2)}{h}$

$= \dfrac{2h^2 + 4sh + 4h}{h}$

$= \dfrac{h(2h + 4s + 4)}{h}$

$= 2h + 4s + 4$

$f(s) = 2s^2 + 4s + 2$

$f(s+h) = 2(h+s)^2 + 4(h+s) + 2$

$= 2h^2 + 4hs + 8h + 2s^2 + 8s + 8$

$\dfrac{f(s+h) - f(s)}{h} = \dfrac{(2h^2 + 4sh + 8h + 2s^2 + 8s + 8) - (2s^2 + 4s + 2)}{h}$

$= \dfrac{2h^2 + 4sh + 4h}{h}$

$= \dfrac{h(2h + 4s + 4)}{h}$

$= 2h + 4s + 4$

$f(s) = 2s^2 + 4s + 2$

$f(s+h) = 2(h+s)^2 + 4(h+s) + 2$

$= 2h^2 + 4hs + 4h + 2s^2 + 4s + 2$

$\dfrac{f(s+h) - f(s)}{h} = \dfrac{(2h^2 + 4sh + 4h + 2s^2 + 4s + 2) - (2s^2 + 4s + 2)}{h}$

$= \dfrac{2h^2 + 4sh + 4h}{h}$

$= \dfrac{h(2h + 4s + 4)}{h}$

$= 2h + 4s + 4$

$f(s) = 2s^2 + 4s + 2$

$f(s+h) = 2(h+s)^2 + 4(h+s) + 2$

$= 2h^2 + 4hs + 2s^2$

$\dfrac{f(s+h) - f(s)}{h} = \dfrac{(2h^2 + 4sh + 12h + 2s^2 + 12s + 18) - (2s^2 + 4s + 2)}{h}$

$= \dfrac{2h^2 + 4sh + 4h}{h}$

$= \dfrac{h(2h + 4(s+1) + 4)}{h}$

$= 2h + 4s + 4$

Solution