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

$e(c) = 2c^2 + c + 8$

$e(c) = 2c^2 + c + 8$

$e(c+h) = 2(c+h)^2 + c + h + 8$

$= 2c^2 + 4ch + c + 2h^2 + h + 8$

$$\frac{e(c+h) - e(c)}{h} = \frac{\left(2c^2 + 4hc + c + 2h^2 + h + 8\right) - \left(2(c+1)^2 + c + 9\right)}{h}$$

$$= \frac{2h^2 + 4ch + h}{h}$$

$$= \frac{h(4c + 2h + 1)}{h}$$

$= 4c + 2h + 1$

$e(c) = 2c^2 + c + 8$

$e(c+h) = 2(c+h)^2 + c + h + 8$

$= 2c^2 + 4ch + 5c + 2h^2 + 5h + 11$

$$\frac{e(c+h) - e(c)}{h} = \frac{\left(2c^2 + 4hc + 5c + 2h^2 + 5h + 11\right) - \left(2c^2 + c + 8\right)}{h}$$

$$= \frac{2h^2 + 4ch + h}{h}$$

$$= \frac{h(4c + 2h + 1)}{h}$$

$= 4c + 2h + 1$

$e(c) = 2c^2 + c + 8$

$e(c+h) = 2(c+h)^2 + c + h + 8$

$= 2c^2 + 4ch + c + 2h^2 + h + 8$

$$\frac{e(c+h) - e(c)}{h} = \frac{\left(2c^2 + 4hc + c + 2h^2 + h + 8\right) - \left(2c^2 + c + 8\right)}{h}$$

$$= \frac{2h^2 + 4ch + h}{h}$$

$$= \frac{h(4c + 2h + 1)}{h}$$

$= 4c + 2h + 1$

$e(c) = 2c^2 + c + 8$

$e(c+h) = 2(c+h)^2 + c + h + 8$

$= 2c^2 + 4ch - 3c + 2h^2 - 3h + 9$

$$\frac{e(c+h) - e(c)}{h} = \frac{\left(2c^2 + 4hc + 9c + 2h^2 + 9h + 18\right) - \left(2c^2 + c + 8\right)}{h}$$

$$= \frac{2h^2 + 4ch + h}{h}$$

$$= \frac{h(4(c+1) + 2h + 1)}{h}$$

$= 4c + 2h + 1$

Solution