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

$$z(x) = 9x^2 + 4x + 1$$

$$z(x) = 9x^2 + 4x + 1$$

$$z(x+h) = 9(h+x)^2 + 4(h+x) + 1$$

$$= 9h^2 + 18hx + 4h + 9x^2 + 4x + 1$$

$$\frac{z(x+h) - z(x)}{h} = \frac{\left(9h^2 + 18xh + 4h + 9x^2 + 4x + 1\right) - \left(9(x+1)^2 + 4(x+1) + 1\right)}{h}$$

$$= \frac{9h^2 + 18xh + 4h}{h}$$

$$= \frac{h(9h + 18x + 4)}{h}$$

$$= 9h + 18x + 4$$

$$z(x) = 9x^2 + 4x + 1$$

$$z(x+h) = 9(h+x)^2 + 4(h+x) + 1$$

$$= 9h^2 + 18hx + 22h + 9x^2 + 22x + 14$$

$$\frac{z(x+h) - z(x)}{h} = \frac{\left(9h^2 + 18xh + 22h + 9x^2 + 22x + 14\right) - \left(9x^2 + 4x + 1\right)}{h}$$

$$= \frac{9h^2 + 18xh + 4h}{h}$$

$$= \frac{h(9h + 18x + 4)}{h}$$

$$= 9h + 18x + 4$$

$$z(x) = 9x^2 + 4x + 1$$

$$z(x+h) = 9(h+x)^2 + 4(h+x) + 1$$

$$= 9h^2 + 18hx + 4h + 9x^2 + 4x + 1$$

$$\frac{z(x+h) - z(x)}{h} = \frac{\left(9h^2 + 18xh + 4h + 9x^2 + 4x + 1\right) - \left(9x^2 + 4x + 1\right)}{h}$$

$$= \frac{9h^2 + 18xh + 4h}{h}$$

$$= \frac{h(9h + 18x + 4)}{h}$$

$$= 9h + 18x + 4$$

$$z(x) = 9x^2 + 4x + 1$$

$$z(x+h) = 9(h+x)^2 + 4(h+x) + 1$$

$$= 9h^2 + 18hx - 14h + 9x^2 - 14x + 6$$

$$\frac{z(x+h) - z(x)}{h} = \frac{\left(9h^2 + 18xh + 40h + 9x^2 + 40x + 45\right) - \left(9x^2 + 4x + 1\right)}{h}$$

$$= \frac{9h^2 + 18xh + 4h}{h}$$

$$= \frac{h(9h + 18(x+1) + 4)}{h}$$

$$= 9h + 18x + 4$$

Solution