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

$$z(r) = 5r^2 + 7r + 1$$

$$z(r) = 5r^2 + 7r + 1$$

$$z(r+h) = 5(h+r)^2 + 7(h+r) + 1$$

$$= 5h^2 + 10hr + 7h + 5r^2 + 7r + 1$$

$$\frac{z(r+h) - z(r)}{h} = \frac{\left(5h^2 + 10rh + 7h + 5r^2 + 7r + 1\right) - \left(5(r+1)^2 + 7(r+1) + 1\right)}{h}$$

$$= \frac{5h^2 + 10rh + 7h}{h}$$

$$= \frac{h(5h + 10r + 7)}{h}$$

$$= 5h + 10r + 7$$

$$z(r) = 5r^2 + 7r + 1$$

$$z(r+h) = 5(h+r)^2 + 7(h+r) + 1$$

$$= 5h^2 + 10hr + 17h + 5r^2 + 17r + 13$$

$$\frac{z(r+h) - z(r)}{h} = \frac{\left(5h^2 + 10rh + 17h + 5r^2 + 17r + 13\right) - \left(5r^2 + 7r + 1\right)}{h}$$

$$= \frac{5h^2 + 10rh + 7h}{h}$$

$$= \frac{h(5h + 10r + 7)}{h}$$

$$= 5h + 10r + 7$$

$$z(r) = 5r^2 + 7r + 1$$

$$z(r+h) = 5(h+r)^2 + 7(h+r) + 1$$

$$= 5h^2 + 10hr + 7h + 5r^2 + 7r + 1$$

$$\frac{z(r+h) - z(r)}{h} = \frac{\left(5h^2 + 10rh + 7h + 5r^2 + 7r + 1\right) - \left(5r^2 + 7r + 1\right)}{h}$$

$$= \frac{5h^2 + 10rh + 7h}{h}$$

$$= \frac{h(5h + 10r + 7)}{h}$$

$$= 5h + 10r + 7$$

$$z(r) = 5r^2 + 7r + 1$$

$$z(r+h) = 5(h+r)^2 + 7(h+r) + 1$$

$$= 5h^2 + 10hr - 3h + 5r^2 - 3r - 1$$

$$\frac{z(r+h) - z(r)}{h} = \frac{\left(5h^2 + 10rh + 27h + 5r^2 + 27r + 35\right) - \left(5r^2 + 7r + 1\right)}{h}$$

$$= \frac{5h^2 + 10rh + 7h}{h}$$

$$= \frac{h(5h + 10(r+1) + 7)}{h}$$

$$= 5h + 10r + 7$$

Solution