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

$k(z) = 2z^2 + 3z + 4$

$k(z) = 2z^2 + 3z + 4$

$k(z+h) = 2(h+z)^2 + 3(h+z) + 4$

$= 2h^2 + 4hz + 3h + 2z^2 + 3z + 4$

$$\frac{k(z+h)-k(z)}{h} = \frac{\left(2h^2+4zh+3h+2z^2+3z+4\right)-\left(2(z+1)^2+3(z+1)+4\right)}{h}$$

$$= \frac{2h^2+4zh+3h}{h}$$

$$= \frac{h(2h+4z+3)}{h}$$

$= 2h + 4z + 3$

$k(z) = 2z^2 + 3z + 4$

$k(z+h) = 2(h+z)^2 + 3(h+z) + 4$

$= 2h^2 + 4hz + 7h + 2z^2 + 7z + 9$

$$\frac{k(z+h)-k(z)}{h} = \frac{\left(2h^2+4zh+7h+2z^2+7z+9\right)-\left(2z^2+3z+4\right)}{h}$$

$$= \frac{2h^2+4zh+3h}{h}$$

$$= \frac{h(2h+4z+3)}{h}$$

$= 2h + 4z + 3$

$k(z) = 2z^2 + 3z + 4$

$k(z+h) = 2(h+z)^2 + 3(h+z) + 4$

$= 2h^2 + 4hz + 3h + 2z^2 + 3z + 4$

$$\frac{k(z+h)-k(z)}{h} = \frac{\left(2h^2+4zh+3h+2z^2+3z+4\right)-\left(2z^2+3z+4\right)}{h}$$

$$= \frac{2h^2+4zh+3h}{h}$$

$$= \frac{h(2h+4z+3)}{h}$$

$= 2h + 4z + 3$

$k(z) = 2z^2 + 3z + 4$

$k(z+h) = 2(h+z)^2 + 3(h+z) + 4$

$= 2h^2 + 4hz - h + 2z^2 - z + 3$

$$\frac{k(z+h)-k(z)}{h} = \frac{\left(2h^2+4zh+11h+2z^2+11z+18\right)-\left(2z^2+3z+4\right)}{h}$$

$$= \frac{2h^2+4zh+3h}{h}$$

$$= \frac{h(2h+4(z+1)+3)}{h}$$

$= 2h + 4z + 3$

Solution