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

$a(v) = 8v^2 + 9v + 4$

$a(v) = 8v^2 + 9v + 4$

$a(v+h) = 8(h+v)^2 + 9(h+v) + 4$

$= 8h^2 + 16hv + 9h + 8v^2 + 9v + 4$

$$\frac{a(v+h)-a(v)}{h} = \frac{\left(8h^2+16vh+9h+8v^2+9v+4\right)-\left(8(v+1)^2+9(v+1)+4\right)}{h}$$

$$= \frac{8h^2+16vh+9h}{h}$$

$$= \frac{h(8h+16v+9)}{h}$$

$= 8h + 16v + 9$

$a(v) = 8v^2 + 9v + 4$

$a(v+h) = 8(h+v)^2 + 9(h+v) + 4$

$= 8h^2 + 16hv + 25h + 8v^2 + 25v + 21$

$$\frac{a(v+h)-a(v)}{h} = \frac{\left(8h^2+16vh+25h+8v^2+25v+21\right)-\left(8v^2+9v+4\right)}{h}$$

$$= \frac{8h^2+16vh+9h}{h}$$

$$= \frac{h(8h+16v+9)}{h}$$

$= 8h + 16v + 9$

$a(v) = 8v^2 + 9v + 4$

$a(v+h) = 8(h+v)^2 + 9(h+v) + 4$

$= 8h^2 + 16hv + 9h + 8v^2 + 9v + 4$

$$\frac{a(v+h)-a(v)}{h} = \frac{\left(8h^2+16vh+9h+8v^2+9v+4\right)-\left(8v^2+9v+4\right)}{h}$$

$$= \frac{8h^2+16vh+9h}{h}$$

$$= \frac{h(8h+16v+9)}{h}$$

$= 8h + 16v + 9$

$a(v) = 8v^2 + 9v + 4$

$a(v+h) = 8(h+v)^2 + 9(h+v) + 4$

$= 8h^2 + 16hv - 7h + 8v^2 - 7v + 3$

$$\frac{a(v+h)-a(v)}{h} = \frac{\left(8h^2+16vh+41h+8v^2+41v+54\right)-\left(8v^2+9v+4\right)}{h}$$

$$= \frac{8h^2+16vh+9h}{h}$$

$$= \frac{h(8h+16(v+1)+9)}{h}$$

$= 8h + 16v + 9$

Solution