

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

$$s(v) = 5v^2 + 7v + 7$$

$$s(v) = 5v^2 + 7v + 7$$

$$s(v+h) = 5(h+v)^2 + 7(h+v) + 7$$

$$= 5h^2 + 10hv + 7h + 5v^2 + 7v + 7$$

$$\frac{s(v+h) - s(v)}{h} = \frac{(5h^2 + 10hv + 7h + 5v^2 + 7v + 7) - (5v^2 + 7v + 7)}{h}$$

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

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

$$= 5h + 10v + 7$$

$$s(v) = 5v^2 + 7v + 7$$

$$s(v+h) = 5(h+v)^2 + 7(h+v) + 7$$

$$= 5h^2 + 10hv + 17h + 5v^2 + 17v + 19$$

$$\frac{s(v+h) - s(v)}{h} = \frac{(5h^2 + 10hv + 17h + 5v^2 + 17v + 19) - (5v^2 + 7v + 7)}{h}$$

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

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

$$= 5h + 10v + 7$$

$$s(v) = 5v^2 + 7v + 7$$

$$s(v+h) = 5(h+v)^2 + 7(h+v) + 7$$

$$= 5h^2 + 10hv + 7h + 5v^2 + 7v + 7$$

$$\frac{s(v+h) - s(v)}{h} = \frac{(5h^2 + 10hv + 7h + 5v^2 + 7v + 7) - (5v^2 + 7v + 7)}{h}$$

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

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

$$= 5h + 10v + 7$$

$$s(v) = 5v^2 + 7v + 7$$

$$s(v+h) = 5(h+v)^2 + 7(h+v) + 7$$

$$= 5h^2 + 10hv - 3h + 5v^2 - 3v + 5$$

$$\frac{s(v+h) - s(v)}{h} = \frac{(5h^2 + 10hv + 27h + 5v^2 + 27v + 41) - (5v^2 + 7v + 7)}{h}$$

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

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

$$= 5h + 10v + 7$$

Solution