

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

$$v(m) = m^2 + 5m + 8$$

$$v(m) = m^2 + 5m + 8$$

$$v(m+h) = (h+m)^2 + 5(h+m) + 8$$

$$= h^2 + 2hm + 5h + m^2 + 5m + 8$$

$$\frac{v(m+h) - v(m)}{h} = \frac{(h^2 + 2hm + 5h + m^2 + 5m + 8) - (m^2 + 5m + 8)}{h}$$

$$= \frac{h^2 + 2hm + 5h}{h}$$

$$= \frac{h(h + 2m + 5)}{h}$$

$$= h + 2m + 5$$

$$v(m) = m^2 + 5m + 8$$

$$v(m+h) = (h+m)^2 + 5(h+m) + 8$$

$$= h^2 + 2hm + 7h + m^2 + 7m + 14$$

$$\frac{v(m+h) - v(m)}{h} = \frac{(h^2 + 2hm + 7h + m^2 + 7m + 14) - (m^2 + 5m + 8)}{h}$$

$$= \frac{h^2 + 2hm + 5h}{h}$$

$$= \frac{h(h + 2m + 5)}{h}$$

$$= h + 2m + 5$$

$$v(m) = m^2 + 5m + 8$$

$$v(m+h) = (h+m)^2 + 5(h+m) + 8$$

$$= h^2 + 2hm + 5h + m^2 + 5m + 8$$

$$\frac{v(m+h) - v(m)}{h} = \frac{(h^2 + 2hm + 5h + m^2 + 5m + 8) - (m^2 + 5m + 8)}{h}$$

$$= \frac{h^2 + 2hm + 5h}{h}$$

$$= \frac{h(h + 2m + 5)}{h}$$

$$= h + 2m + 5$$

$$v(m) = m^2 + 5m + 8$$

$$v(m+h) = (h+m)^2 + 5(h+m) + 8$$

$$= h^2 + 2hm + 3h + m^2 + 3m + 4$$

$$\frac{v(m+h) - v(m)}{h} = \frac{(h^2 + 2hm + 9h + m^2 + 9m + 22) - (m^2 + 5m + 8)}{h}$$

$$= \frac{h^2 + 2hm + 5h}{h}$$

$$= \frac{h(h + 2(m+1) + 5)}{h}$$

$$= h + 2m + 5$$

**Solution**