

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

$$x(c) = 9c^2 + 3c + 7$$

$$x(c) = 9c^2 + 3c + 7$$

$$x(c+h) = 9(c+h)^2 + 3(c+h) + 7$$

$$= 9c^2 + 18ch + 3c + 9h^2 + 3h + 7$$

$$\frac{x(c+h) - x(c)}{h} = \frac{(9c^2 + 18ch + 3c + 9h^2 + 3h + 7) - (9c^2 + 3c + 7)}{h}$$

$$= \frac{9h^2 + 18ch + 3h}{h}$$

$$= \frac{h(18c + 9h + 3)}{h}$$

$$= 18c + 9h + 3$$

$$x(c) = 9c^2 + 3c + 7$$

$$x(c+h) = 9(c+h)^2 + 3(c+h) + 7$$

$$= 9c^2 + 18ch + 21c + 9h^2 + 21h + 19$$

$$\frac{x(c+h) - x(c)}{h} = \frac{(9c^2 + 18ch + 21c + 9h^2 + 21h + 19) - (9c^2 + 3c + 7)}{h}$$

$$= \frac{9h^2 + 18ch + 3h}{h}$$

$$= \frac{h(18c + 9h + 3)}{h}$$

$$= 18c + 9h + 3$$

$$x(c) = 9c^2 + 3c + 7$$

$$x(c+h) = 9(c+h)^2 + 3(c+h) + 7$$

$$= 9c^2 + 18ch + 3c + 9h^2 + 3h + 7$$

$$\frac{x(c+h) - x(c)}{h} = \frac{(9c^2 + 18ch + 3c + 9h^2 + 3h + 7) - (9c^2 + 3c + 7)}{h}$$

$$= \frac{9h^2 + 18ch + 3h}{h}$$

$$= \frac{h(18c + 9h + 3)}{h}$$

$$= 18c + 9h + 3$$

$$x(c) = 9c^2 + 3c + 7$$

$$x(c+h) = 9(c+h)^2 + 3(c+h) + 7$$

$$= 9c^2 + 18ch - 15c + 9h^2 - 15h + 13$$

$$\frac{x(c+h) - x(c)}{h} = \frac{(9c^2 + 18ch + 39c + 9h^2 + 39h + 49) - (9c^2 + 3c + 7)}{h}$$

$$= \frac{9h^2 + 18ch + 3h}{h}$$

$$= \frac{h(18(c+1) + 9h + 3)}{h}$$

$$= 18c + 9h + 3$$

**Solution**