

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

$$n(c) = 2c^2 + 2c + 7$$

$$n(c) = 2c^2 + 2c + 7$$

$$n(c+h) = 2(c+h)^2 + 2(c+h) + 7$$

$$= 2c^2 + 4ch + 2c + 2h^2 + 2h + 7$$

$$\frac{n(c+h) - n(c)}{h} = \frac{(2c^2 + 4ch + 2c + 2h^2 + 2h + 7) - (2(c+1)^2 + 2(c+1) + 7)}{h}$$

$$= \frac{2h^2 + 4ch + 2h}{h}$$

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

$$= 4c + 2h + 2$$

$$n(c) = 2c^2 + 2c + 7$$

$$n(c+h) = 2(c+h)^2 + 2(c+h) + 7$$

$$= 2c^2 + 4ch + 6c + 2h^2 + 6h + 11$$

$$\frac{n(c+h) - n(c)}{h} = \frac{(2c^2 + 4ch + 6c + 2h^2 + 6h + 11) - (2c^2 + 2c + 7)}{h}$$

$$= \frac{2h^2 + 4ch + 2h}{h}$$

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

$$= 4c + 2h + 2$$

$$n(c) = 2c^2 + 2c + 7$$

$$n(c+h) = 2(c+h)^2 + 2(c+h) + 7$$

$$= 2c^2 + 4ch + 2c + 2h^2 + 2h + 7$$

$$\frac{n(c+h) - n(c)}{h} = \frac{(2c^2 + 4ch + 2c + 2h^2 + 2h + 7) - (2c^2 + 2c + 7)}{h}$$

$$= \frac{2h^2 + 4ch + 2h}{h}$$

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

$$= 4c + 2h + 2$$

$$n(c) = 2c^2 + 2c + 7$$

$$n(c+h) = 2(c+h)^2 + 2(c+h) + 7$$

$$= 2c^2 + 4ch - 2c + 2h^2 - 2h + 7$$

$$\frac{n(c+h) - n(c)}{h} = \frac{(2c^2 + 4ch - 2c + 2h^2 - 2h + 7) - (2c^2 + 2c + 7)}{h}$$

$$= \frac{2h^2 + 4ch + 2h}{h}$$

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

$$= 4c + 2h + 2$$

**Solution**