

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

$$b(d) = 9d^2 + 3d + 1$$

$$b(d) = 9d^2 + 3d + 1$$

$$b(d+h) = 9(d+h)^2 + 3(d+h) + 1$$

$$= 9d^2 + 18dh + 3d + 9h^2 + 3h + 1$$

$$\frac{b(d+h) - b(d)}{h} = \frac{(9d^2 + 18dh + 3d + 9h^2 + 3h + 1) - (9d^2 + 3d + 1)}{h}$$

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

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

$$= 18d + 9h + 3$$

$$b(d) = 9d^2 + 3d + 1$$

$$b(d+h) = 9(d+h)^2 + 3(d+h) + 1$$

$$= 9d^2 + 18dh + 21d + 9h^2 + 21h + 13$$

$$\frac{b(d+h) - b(d)}{h} = \frac{(9d^2 + 18dh + 21d + 9h^2 + 21h + 13) - (9d^2 + 3d + 1)}{h}$$

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

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

$$= 18d + 9h + 3$$

$$b(d) = 9d^2 + 3d + 1$$

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$$\frac{b(d+h) - b(d)}{h} = \frac{(9d^2 + 18dh + 3d + 9h^2 + 3h + 1) - (9d^2 + 3d + 1)}{h}$$

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

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

$$= 18d + 9h + 3$$

$$b(d) = 9d^2 + 3d + 1$$

$$b(d+h) = 9(d+h)^2 + 3(d+h) + 1$$

$$= 9d^2 + 18dh - 15d + 9h^2 - 15h + 7$$

$$\frac{b(d+h) - b(d)}{h} = \frac{(9d^2 + 18dh + 39d + 9h^2 + 39h + 43) - (9d^2 + 3d + 1)}{h}$$

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

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

$$= 18d + 9h + 3$$

Solution