

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

$$m(b) = 3b^2 + 9b + 7$$

$$m(b) = 3b^2 + 9b + 7$$

$$m(b+h) = 3(b+h)^2 + 9(b+h) + 7$$

$$= 3b^2 + 6bh + 9b + 3h^2 + 9h + 7$$

$$\frac{m(b+h) - m(b)}{h} = \frac{(3b^2 + 6bh + 9b + 3h^2 + 9h + 7) - (3(b+1)^2 + 9(b+1) + 7)}{h}$$

$$= \frac{3h^2 + 6bh + 9h}{h}$$

$$= \frac{h(6b + 3h + 9)}{h}$$

$$= 6b + 3h + 9$$

$$m(b) = 3b^2 + 9b + 7$$

$$m(b+h) = 3(b+h)^2 + 9(b+h) + 7$$

$$= 3b^2 + 6bh + 15b + 3h^2 + 15h + 19$$

$$\frac{m(b+h) - m(b)}{h} = \frac{(3b^2 + 6bh + 15b + 3h^2 + 15h + 19) - (3b^2 + 9b + 7)}{h}$$

$$= \frac{3h^2 + 6bh + 9h}{h}$$

$$= \frac{h(6b + 3h + 9)}{h}$$

$$= 6b + 3h + 9$$

$$m(b) = 3b^2 + 9b + 7$$

$$m(b+h) = 3(b+h)^2 + 9(b+h) + 7$$

$$= 3b^2 + 6bh + 9b + 3h^2 + 9h + 7$$

$$\frac{m(b+h) - m(b)}{h} = \frac{(3b^2 + 6bh + 9b + 3h^2 + 9h + 7) - (3b^2 + 9b + 7)}{h}$$

$$= \frac{3h^2 + 6bh + 9h}{h}$$

$$= \frac{h(6b + 3h + 9)}{h}$$

$$= 6b + 3h + 9$$

$$m(b) = 3b^2 + 9b + 7$$

$$m(b+h) = 3(b+h)^2 + 9(b+h) + 7$$

$$= 3b^2 + 6bh + 3b + 3h^2 + 3h + 1$$

$$\frac{m(b+h) - m(b)}{h} = \frac{(3b^2 + 6bh + 21b + 3h^2 + 21h + 37) - (3b^2 + 9b + 7)}{h}$$

$$= \frac{3h^2 + 6bh + 9h}{h}$$

$$= \frac{h(6(b+1) + 3h + 9)}{h}$$

$$= 6b + 3h + 9$$

Solution