

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

$$m(a) = 8a^2 + 8a + 4$$

$$m(a) = 8a^2 + 8a + 4$$

$$m(a+h) = 8(a+h)^2 + 8(a+h) + 4$$

$$= 8a^2 + 16ah + 8a + 8h^2 + 8h + 4$$

$$\frac{m(a+h) - m(a)}{h} = \frac{(8a^2 + 16ah + 8a + 8h^2 + 8h + 4) - (8a^2 + 8a + 4)}{h}$$

$$= \frac{8h^2 + 16ah + 8h}{h}$$

$$= \frac{h(16a + 8h + 8)}{h}$$

$$= 16a + 8h + 8$$

$$m(a) = 8a^2 + 8a + 4$$

$$m(a+h) = 8(a+h)^2 + 8(a+h) + 4$$

$$= 8a^2 + 16ah + 24a + 8h^2 + 24h + 20$$

$$\frac{m(a+h) - m(a)}{h} = \frac{(8a^2 + 16ah + 24a + 8h^2 + 24h + 20) - (8a^2 + 8a + 4)}{h}$$

$$= \frac{8h^2 + 16ah + 8h}{h}$$

$$= \frac{h(16a + 8h + 8)}{h}$$

$$= 16a + 8h + 8$$

$$m(a) = 8a^2 + 8a + 4$$

$$m(a+h) = 8(a+h)^2 + 8(a+h) + 4$$

$$= 8a^2 + 16ah + 8a + 8h^2 + 8h + 4$$

$$\frac{m(a+h) - m(a)}{h} = \frac{(8a^2 + 16ah + 8a + 8h^2 + 8h + 4) - (8a^2 + 8a + 4)}{h}$$

$$= \frac{8h^2 + 16ah + 8h}{h}$$

$$= \frac{h(16a + 8h + 8)}{h}$$

$$= 16a + 8h + 8$$

$$m(a) = 8a^2 + 8a + 4$$

$$m(a+h) = 8(a+h)^2 + 8(a+h) + 4$$

$$= 8a^2 + 16ah - 8a + 8h^2 - 8h + 4$$

$$\frac{m(a+h) - m(a)}{h} = \frac{(8a^2 + 16ah + 40a + 8h^2 + 40h + 52) - (8a^2 + 8a + 4)}{h}$$

$$= \frac{8h^2 + 16ah + 8h}{h}$$

$$= \frac{h(16(a+1) + 8h + 8)}{h}$$

$$= 16a + 8h + 8$$

Solution