

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

$$w(r) = 5r^2 + 3r + 4$$

$$w(r) = 5r^2 + 3r + 4$$

$$w(r+h) = 5(h+r)^2 + 3(h+r) + 4$$

$$= 5h^2 + 10hr + 3h + 5r^2 + 3r + 4$$

$$\frac{w(r+h) - w(r)}{h} = \frac{(5h^2 + 10hr + 3h + 5r^2 + 3r + 4) - (5r^2 + 3r + 4)}{h}$$

$$= \frac{5h^2 + 10hr + 3h}{h}$$

$$= \frac{h(5h + 10r + 3)}{h}$$

$$= 5h + 10r + 3$$

$$w(r) = 5r^2 + 3r + 4$$

$$w(r+h) = 5(h+r)^2 + 3(h+r) + 4$$

$$= 5h^2 + 10hr + 13h + 5r^2 + 13r + 12$$

$$\frac{w(r+h) - w(r)}{h} = \frac{(5h^2 + 10hr + 13h + 5r^2 + 13r + 12) - (5r^2 + 3r + 4)}{h}$$

$$= \frac{5h^2 + 10hr + 3h}{h}$$

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$$w(r) = 5r^2 + 3r + 4$$

$$w(r+h) = 5(h+r)^2 + 3(h+r) + 4$$

$$= 5h^2 + 10hr - 7h + 5r^2 - 7r + 6$$

$$\frac{w(r+h) - w(r)}{h} = \frac{(5h^2 + 10hr + 23h + 5r^2 + 23r + 30) - (5r^2 + 3r + 4)}{h}$$

$$= \frac{5h^2 + 10hr + 3h}{h}$$

$$= \frac{h(5h + 10(r+1) + 3)}{h}$$

$$= 5h + 10r + 3$$

Solution