

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

$$w(g) = 9g^2 + 9g + 5$$

$$w(g) = 9g^2 + 9g + 5$$

$$w(g+h) = 9(g+h)^2 + 9(g+h) + 5$$

$$= 9g^2 + 18gh + 9g + 9h^2 + 9h + 5$$

$$\frac{w(g+h) - w(g)}{h} = \frac{(9g^2 + 18gh + 9g + 9h^2 + 9h + 5) - (9(g+1)^2 + 9(g+1) + 5)}{h}$$

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

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

$$= 18g + 9h + 9$$

$$w(g) = 9g^2 + 9g + 5$$

$$w(g+h) = 9(g+h)^2 + 9(g+h) + 5$$

$$= 9g^2 + 18gh + 27g + 9h^2 + 27h + 23$$

$$\frac{w(g+h) - w(g)}{h} = \frac{(9g^2 + 18gh + 27g + 9h^2 + 27h + 23) - (9g^2 + 9g + 5)}{h}$$

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

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

$$= 18g + 9h + 9$$

$$w(g) = 9g^2 + 9g + 5$$

$$w(g+h) = 9(g+h)^2 + 9(g+h) + 5$$

$$= 9g^2 + 18gh + 9g + 9h^2 + 9h + 5$$

$$\frac{w(g+h) - w(g)}{h} = \frac{(9g^2 + 18gh + 9g + 9h^2 + 9h + 5) - (9g^2 + 9g + 5)}{h}$$

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

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

$$= 18g + 9h + 9$$

$$w(g) = 9g^2 + 9g + 5$$

$$w(g+h) = 9(g+h)^2 + 9(g+h) + 5$$

$$= 9g^2 + 18gh - 9g + 9h^2 - 9h + 5$$

$$\frac{w(g+h) - w(g)}{h} = \frac{(9g^2 + 18gh + 45g + 9h^2 + 45h + 59) - (9g^2 + 9g + 5)}{h}$$

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

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

$$= 18g + 9h + 9$$

Solution