

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

$$d(w) = 2w^2 + 5w + 6$$

$$d(w) = 2w^2 + 5w + 6$$

$$d(w+h) = 2(h+w)^2 + 5(h+w) + 6$$

$$= 2h^2 + 4hw + 5h + 2w^2 + 5w + 6$$

$$\frac{d(w+h) - d(w)}{h} = \frac{(2h^2 + 4hw + 5h + 2w^2 + 5w + 6) - (2(w+1)^2 + 5(w+1) + 6)}{h}$$

$$= \frac{2h^2 + 4hw + 5h}{h}$$

$$= \frac{h(2h + 4w + 5)}{h}$$

$$= 2h + 4w + 5$$

$$d(w) = 2w^2 + 5w + 6$$

$$d(w+h) = 2(h+w)^2 + 5(h+w) + 6$$

$$= 2h^2 + 4hw + 9h + 2w^2 + 9w + 13$$

$$\frac{d(w+h) - d(w)}{h} = \frac{(2h^2 + 4hw + 9h + 2w^2 + 9w + 13) - (2w^2 + 5w + 6)}{h}$$

$$= \frac{2h^2 + 4hw + 5h}{h}$$

$$= \frac{h(2h + 4w + 5)}{h}$$

$$= 2h + 4w + 5$$

$$d(w) = 2w^2 + 5w + 6$$

$$d(w+h) = 2(h+w)^2 + 5(h+w) + 6$$

$$= 2h^2 + 4hw + 5h + 2w^2 + 5w + 6$$

$$\frac{d(w+h) - d(w)}{h} = \frac{(2h^2 + 4hw + 5h + 2w^2 + 5w + 6) - (2w^2 + 5w + 6)}{h}$$

$$= \frac{2h^2 + 4hw + 5h}{h}$$

$$= \frac{h(2h + 4w + 5)}{h}$$

$$= 2h + 4w + 5$$

$$d(w) = 2w^2 + 5w + 6$$

$$d(w+h) = 2(h+w)^2 + 5(h+w) + 6$$

$$= 2h^2 + 4hw + h + 2w^2 + w + 3$$

$$\frac{d(w+h) - d(w)}{h} = \frac{(2h^2 + 4hw + 13h + 2w^2 + 13w + 24) - (2w^2 + 5w + 6)}{h}$$

$$= \frac{2h^2 + 4hw + 5h}{h}$$

$$= \frac{h(2h + 4(w+1) + 5)}{h}$$

$$= 2h + 4w + 5$$

**Solution**