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

$c(f) = 6f^2 + 7f + 6$

$c(f) = 6f^2 + 7f + 6$

$c(f+h) = 6(f+h)^2 + 7(f+h) + 6$

$= 6f^2 + 12fh + 7f + 6h^2 + 7h + 6$

$$\frac{c(f+h)-c(f)}{h} = \frac{\left(6f^2+12hf+7f+6h^2+7h+6\right)-\left(6(f+1)^2+7(f+1)+6\right)}{h}$$

$$= \frac{6h^2+12fh+7h}{h}$$

$$= \frac{h(12f+6h+7)}{h}$$

$= 12f + 6h + 7$

$c(f) = 6f^2 + 7f + 6$

$c(f+h) = 6(f+h)^2 + 7(f+h) + 6$

$= 6f^2 + 12fh + 19f + 6h^2 + 19h + 19$

$$\frac{c(f+h)-c(f)}{h} = \frac{\left(6f^2+12hf+19f+6h^2+19h+19\right)-\left(6f^2+7f+6\right)}{h}$$

$$= \frac{6h^2+12fh+7h}{h}$$

$$= \frac{h(12f+6h+7)}{h}$$

$= 12f + 6h + 7$

$c(f) = 6f^2 + 7f + 6$

$c(f+h) = 6(f+h)^2 + 7(f+h) + 6$

$= 6f^2 + 12fh + 7f + 6h^2 + 7h + 6$

$$\frac{c(f+h)-c(f)}{h} = \frac{\left(6f^2+12hf+7f+6h^2+7h+6\right)-\left(6f^2+7f+6\right)}{h}$$

$$= \frac{6h^2+12fh+7h}{h}$$

$$= \frac{h(12f+6h+7)}{h}$$

$= 12f + 6h + 7$

$c(f) = 6f^2 + 7f + 6$

$c(f+h) = 6(f+h)^2 + 7(f+h) + 6$

$= 6f^2 + 12fh - 5f + 6h^2 - 5h + 5$

$$\frac{c(f+h)-c(f)}{h} = \frac{\left(6f^2+12hf+31f+6h^2+31h+44\right)-\left(6f^2+7f+6\right)}{h}$$

$$= \frac{6h^2+12fh+7h}{h}$$

$$= \frac{h(12(f+1)+6h+7)}{h}$$

$= 12f + 6h + 7$

Solution