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

$k(t) = 7t^2 + 2t + 5$

$k(t) = 7t^2 + 2t + 5$

$k(t+h) = 7(h+t)^2 + 2(h+t) + 5$

$= 7h^2 + 14ht + 2h + 7t^2 + 2t + 5$

$$\frac{k(t+h)-k(t)}{h} = \frac{\left(7h^2+14th+2h+7t^2+2t+5\right)-\left(7(t+1)^2+2(t+1)+5\right)}{h}$$

$$= \frac{7h^2+14th+2h}{h}$$

$$= \frac{h(7h+14t+2)}{h}$$

$= 7h + 14t + 2$

$k(t) = 7t^2 + 2t + 5$

$k(t+h) = 7(h+t)^2 + 2(h+t) + 5$

$= 7h^2 + 14ht + 16h + 7t^2 + 16t + 14$

$$\frac{k(t+h)-k(t)}{h} = \frac{\left(7h^2+14th+16h+7t^2+16t+14\right)-\left(7t^2+2t+5\right)}{h}$$

$$= \frac{7h^2+14th+2h}{h}$$

$$= \frac{h(7h+14t+2)}{h}$$

$= 7h + 14t + 2$

$k(t) = 7t^2 + 2t + 5$

$k(t+h) = 7(h+t)^2 + 2(h+t) + 5$

$= 7h^2 + 14ht + 2h + 7t^2 + 2t + 5$

$$\frac{k(t+h)-k(t)}{h} = \frac{\left(7h^2+14th+2h+7t^2+2t+5\right)-\left(7t^2+2t+5\right)}{h}$$

$$= \frac{7h^2+14th+2h}{h}$$

$$= \frac{h(7h+14t+2)}{h}$$

$= 7h + 14t + 2$

$k(t) = 7t^2 + 2t + 5$

$k(t+h) = 7(h+t)^2 + 2(h+t) + 5$

$= 7h^2 + 14ht - 12h + 7t^2 - 12t + 10$

$$\frac{k(t+h)-k(t)}{h} = \frac{\left(7h^2+14th+30h+7t^2+30t+37\right)-\left(7t^2+2t+5\right)}{h}$$

$$= \frac{7h^2+14th+2h}{h}$$

$$= \frac{h(7h+14(t+1)+2)}{h}$$

$= 7h + 14t + 2$

Solution