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

$p(r) = 2r^2 + 9r + 7$

$p(r) = 2r^2 + 9r + 7$

$p(r+h) = 2(h+r)^2 + 9(h+r) + 7$

$= 2h^2 + 4hr + 9h + 2r^2 + 9r + 7$

$$\frac{p(r+h)-p(r)}{h} = \frac{\left(2h^2+4rh+9h+2r^2+9r+7\right)-\left(2(r+1)^2+9(r+1)+7\right)}{h}$$

$$= \frac{2h^2+4rh+9h}{h}$$

$$= \frac{h(2h+4r+9)}{h}$$

$= 2h + 4r + 9$

$p(r) = 2r^2 + 9r + 7$

$p(r+h) = 2(h+r)^2 + 9(h+r) + 7$

$= 2h^2 + 4hr + 13h + 2r^2 + 13r + 18$

$$\frac{p(r+h)-p(r)}{h} = \frac{\left(2h^2+4rh+13h+2r^2+13r+18\right)-\left(2r^2+9r+7\right)}{h}$$

$$= \frac{2h^2+4rh+9h}{h}$$

$$= \frac{h(2h+4r+9)}{h}$$

$= 2h + 4r + 9$

$p(r) = 2r^2 + 9r + 7$

$p(r+h) = 2(h+r)^2 + 9(h+r) + 7$

$= 2h^2 + 4hr + 9h + 2r^2 + 9r + 7$

$$\frac{p(r+h)-p(r)}{h} = \frac{\left(2h^2+4rh+9h+2r^2+9r+7\right)-\left(2r^2+9r+7\right)}{h}$$

$$= \frac{2h^2+4rh+9h}{h}$$

$$= \frac{h(2h+4r+9)}{h}$$

$= 2h + 4r + 9$

$p(r) = 2r^2 + 9r + 7$

$p(r+h) = 2(h+r)^2 + 9(h+r) + 7$

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

$$\frac{p(r+h)-p(r)}{h} = \frac{\left(2h^2+4rh+17h+2r^2+17r+33\right)-\left(2r^2+9r+7\right)}{h}$$

$$= \frac{2h^2+4rh+9h}{h}$$

$$= \frac{h(2h+4(r+1)+9)}{h}$$

$= 2h + 4r + 9$

Solution