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

$p(r) = 4r^2 + 3r + 9$

$p(r) = 4r^2 + 3r + 9$

$p(r+h) = 4(h+r)^2 + 3(h+r) + 9$

$= 4h^2 + 8hr + 3h + 4r^2 + 3r + 9$

$\frac{p(r+h)-p(r)}{h} = \frac{\left(4h^2+8rh+3h+4r^2+3r+9\right)-\left(4(r+1)^2+3(r+1)+9\right)}{h}$

$= \frac{4h^2+8rh+3h}{h}$

$= \frac{h(4h+8r+3)}{h}$

$= 4h + 8r + 3$

$p(r) = 4r^2 + 3r + 9$

$p(r+h) = 4(h+r)^2 + 3(h+r) + 9$

$= 4h^2 + 8hr + 11h + 4r^2 + 11r + 16$

$\frac{p(r+h)-p(r)}{h} = \frac{\left(4h^2+8rh+11h+4r^2+11r+16\right)-\left(4r^2+3r+9\right)}{h}$

$= \frac{4h^2+8rh+3h}{h}$

$= \frac{h(4h+8r+3)}{h}$

$= 4h + 8r + 3$

$p(r) = 4r^2 + 3r + 9$

$p(r+h) = 4(h+r)^2 + 3(h+r) + 9$

$= 4h^2 + 8hr + 3h + 4r^2 + 3r + 9$

$\frac{p(r+h)-p(r)}{h} = \frac{\left(4h^2+8rh+3h+4r^2+3r+9\right)-\left(4r^2+3r+9\right)}{h}$

$= \frac{4h^2+8rh+3h}{h}$

$= \frac{h(4h+8r+3)}{h}$

$= 4h + 8r + 3$

$p(r) = 4r^2 + 3r + 9$

$p(r+h) = 4(h+r)^2 + 3(h+r) + 9$

$= 4h^2 + 8hr - 5h + 4r^2 - 5r + 10$

$\frac{p(r+h)-p(r)}{h} = \frac{\left(4h^2+8rh+19h+4r^2+19r+31\right)-\left(4r^2+3r+9\right)}{h}$

$= \frac{4h^2+8rh+3h}{h}$

$= \frac{h(4h+8(r+1)+3)}{h}$

$= 4h + 8r + 3$

Solution