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

$p(f) = f^2 + 6f + 1$

$p(f) = f^2 + 6f + 1$

$p(f+h) = (f+h)^2 + 6(f+h) + 1$

$= f^2 + 2fh + 6f + h^2 + 6h + 1$

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

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

$= \frac{h(2f+h+6)}{h}$

$= 2f + h + 6$

$p(f) = f^2 + 6f + 1$

$p(f+h) = (f+h)^2 + 6(f+h) + 1$

$= f^2 + 2fh + 8f + h^2 + 8h + 8$

$\frac{p(f+h)-p(f)}{h} = \frac{\left(f^2+2hf+8f+h^2+8h+8\right)-\left(f^2+6f+1\right)}{h}$

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

$= \frac{h(2f+h+6)}{h}$

$= 2f + h + 6$

$p(f) = f^2 + 6f + 1$

$p(f+h) = (f+h)^2 + 6(f+h) + 1$

$= f^2 + 2fh + 6f + h^2 + 6h + 1$

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

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

$= \frac{h(2f+h+6)}{h}$

$= 2f + h + 6$

$p(f) = f^2 + 6f + 1$

$p(f+h) = (f+h)^2 + 6(f+h) + 1$

$= f^2 + 2fh + 4f + h^2 + 4h - 4$

$\frac{p(f+h)-p(f)}{h} = \frac{\left(f^2+2hf+10f+h^2+10h+17\right)-\left(f^2+6f+1\right)}{h}$

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

$= \frac{h(2(f+1)+h+6)}{h}$

$= 2f + h + 6$

Solution