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

$z(m) = m^2 + 7m + 8$

$z(m) = m^2 + 7m + 8$

$z(m+h) = (h+m)^2 + 7(h+m) + 8$

$= h^2 + 2hm + 7h + m^2 + 7m + 8$

$\frac{z(m+h) - z(m)}{h} = \frac{\left(h^2+2mh+7h+m^2+7m+8\right) - \left((m+1)^2+7(m+1)+8\right)}{h}$

$= \frac{h^2+2mh+7h}{h}$

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

$= h + 2m + 7$

$z(m) = m^2 + 7m + 8$

$z(m+h) = (h+m)^2 + 7(h+m) + 8$

$= h^2 + 2hm + 9h + m^2 + 9m + 16$

$\frac{z(m+h) - z(m)}{h} = \frac{\left(h^2+2mh+9h+m^2+9m+16\right) - \left(m^2+7m+8\right)}{h}$

$= \frac{h^2+2mh+7h}{h}$

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

$= h + 2m + 7$

$z(m) = m^2 + 7m + 8$

$z(m+h) = (h+m)^2 + 7(h+m) + 8$

$= h^2 + 2hm + 7h + m^2 + 7m + 8$

$\frac{z(m+h) - z(m)}{h} = \frac{\left(h^2+2mh+7h+m^2+7m+8\right) - \left(m^2+7m+8\right)}{h}$

$= \frac{h^2+2mh+7h}{h}$

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

$= h + 2m + 7$

$z(m) = m^2 + 7m + 8$

$z(m+h) = (h+m)^2 + 7(h+m) + 8$

$= h^2 + 2hm + 5h + m^2 + 5m + 2$

$\frac{z(m+h) - z(m)}{h} = \frac{\left(h^2+2mh+11h+m^2+11m+26\right) - \left(m^2+7m+8\right)}{h}$

$= \frac{h^2+2mh+7h}{h}$

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

$= h + 2m + 7$

Solution