5. Which of the following are correct calculations for difference quotient of: t(n) = 2 n + 1 t(n) = 2 n + 1 t(n+h) = 2 (h+n) + 1 = 2 h + 2 n + 1 t(n+h) - t(n) = (2 h + 2 n + 1) - (2 (n+1) + 1)

```
\begin{split} \frac{t\,(n+h)-t\,(n)}{h} &= \frac{(2\,h+2\,n+1)-(2\,(n+1)+1)}{h} \\ &= \frac{2\,h}{h} \\ &= \frac{h\,(2)}{h} \\ &= 2 \end{split} t\,(n) = 2\,n+1 \\ t\,(n+h) = 2\,(h+n) + 1 \\ &= 2\,h+2\,n+3 \\ \frac{t\,(n+h)-t\,(n)}{h} &= \frac{(2\,h+2\,n+3)-(2\,n+1)}{h} \\ &= \frac{2\,h}{h} \end{split}
```

$$\begin{array}{c} =2 \\ \hline \\ t \ (n) = 2 \ n + 1 \\ t \ (n+h) = 2 \ (h+n) \ + 1 \\ = 2 \ h + 2 \ n + 1 \\ \hline \\ \frac{t \ (n+h) - t \ (n)}{h} = \frac{(2 \ h + 2 \ n + 1) - (2 \ n + 1)}{h} \\ = \frac{2 \ h}{h} \\ = \frac{h \ (2)}{h} \\ = 2 \\ \hline \end{array}$$

```
\begin{array}{c} t\;(n) = 2\;n \; + \; 1 \\ t\;(n + h) = 2\;\;(h \; + \; n) \; \; + \; 1 \\ = 2\;h \; + \; 2\;n \; - \; 1 \\ \frac{t\;(n + h) \; - t\;(n)}{h} = \frac{(2\;h + 2\;n + 5) \; - \;(2\;n + 1)}{h} \\ = \frac{2\;h}{h} \\ = \frac{h\;(2)}{h} \\ = 2 \end{array}
```

Solution

 $=\frac{h(2)}{h}$