1. Which of the following are correct calculations for difference quotient of: y(k) = 9 k + 5 y(k) = 9 k + 5 y(k+h) = 9 (h+k) + 5 = 9 h + 9 k + 5 y(k+h) = y(k) - (9 h+9 k+5) = (9 (k+1) +5)

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\begin{split} \frac{y\left(k+h\right)-y\left(k\right)}{h} &= \frac{\left(9\,h+9\,k+5\right)-\left(9\,\left(k+1\right)+5\right)}{h} \\ &= \frac{9\,h}{h} \\ &= \frac{h\left(9\right)}{h} \\ &= 9 \end{split}
y\left(k\right) = 9\,k + 5
y\left(k+h\right) = 9\,\left(h+k\right) + 5
&= 9\,h + 9\,k + 14
\frac{y\left(k+h\right)-y\left(k\right)}{h} = \frac{\left(9\,h+9\,k+14\right)-\left(9\,k+5\right)}{h} \\ &= \frac{9\,h}{h} \end{split}
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 y(k) = 9 k + 5 
y(k+h) = 9 (h+k) + 5 
= 9 h + 9 k + 5 
\frac{y(k+h) - y(k)}{h} = \frac{(9 h+9 k+5) - (9 k+5)}{h} 
= \frac{9 h}{h} 
= \frac{h(9)}{h} 
= 9
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y(k) = 9 k + 5
y(k+h) = 9 (h + k) + 5
= 9 h + 9 k - 4
\frac{y(k+h) - y(k)}{h} = \frac{(9 h + 9 k + 23) - (9 k + 5)}{h}
= \frac{9 h}{h}
= \frac{h(9)}{h}
= 9
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Solution

 $= \frac{h(9)}{h}$ = 9