difference quotient of: m(n) = 9 n + 1 m(n) = 9 n + 1 m(n+h) = 9 (h+n) + 1 = 9 h + 9 n + 1 m(n+h) - m(n) = (9 h + 9 n + 1) - (9 (n+1) + 1)

2. Which of the following are correct calculations for

```
\begin{split} &\frac{m(n+h)-m(n)}{h} = \frac{(9\,h+9\,n+1)-(9\,(n+1)+1)}{h} \\ &= \frac{9\,h}{h} \\ &= \frac{h\,(9)}{h} \\ &= 9 \end{split} &m\,(\,n\,) = 9\,\,n\,+\,1 \\ &m\,(\,n+h\,) = 9\,\,(\,h\,+\,n\,)\,\,+\,1 \\ &= 9\,\,h\,+\,9\,\,n\,+\,10 \\ &\frac{m\,(n+h)-m\,(n)}{h} = \frac{(9\,h+9\,n+10)-(9\,n+1)}{h} \\ &= \frac{9\,h}{h} \\ &= \frac{h\,(9)}{h} \end{split}
```

```
\begin{array}{l} m\,(\,n\,) = 9\,\,n \,+\, 1 \\ m\,(\,n + h\,) = 9\,\,(\,h \,+\, n\,) \,\,+\, 1 \\ = 9\,\,h \,+\, 9\,\,n \,+\, 1 \\ \frac{m\,(\,n + h\,) \,-\, m\,(\,n\,)}{h} = \frac{(\,9\,\,h + 9\,\,n + 1\,) \,-\,(\,9\,\,n + 1\,)}{h} \\ = \frac{9\,h}{h} \\ = \frac{h\,(\,9\,)}{h} \\ = 9 \end{array}
```

```
\begin{array}{l} m\left(n\right) = 9 \; n \; + \; 1 \\ m\left(n + h\right) = 9 \; \left(h \; + \; n\right) \; + \; 1 \\ = 9 \; h \; + \; 9 \; n \; - \; 8 \\ \frac{m\left(n + h\right) \; - m\left(n\right)}{h} = \frac{\left(9 \; h + 9 \; n + 19\right) \; - \; \left(9 \; n + 1\right)}{h} \\ = \frac{9 \; h}{h} \\ = \frac{h\left(9\right)}{h} \\ = 9 \end{array}
```

## Solution

=9