3. Which of the following are correct calculations for difference quotient of: $k\left(a\right)$ = 6 a $_{+}$ 9

```
\begin{array}{l} k\,(\,a\,) = 6\,\,a \,+\, 9 \\ k\,(\,a + h\,) = 6\,\,(\,a \,+\, h\,) \,\,+\, 9 \\ = 6\,\,a \,+\, 6\,\,h \,+\, 9 \\ \frac{k\,(\,a + h\,) - k\,(\,a\,)}{h} = \frac{(\,6\,\,a + 6\,\,h + 9\,) - (\,6\,\,(\,a + 1\,) \,+\, 9\,)}{h} \\ = \frac{6\,h}{h} \\ = \frac{h\,(\,6\,)}{h} \\ = 6 \end{array}
```

$$\begin{array}{l} k \, (\, a + h\,) \, = 6 \, \, (\, a \, + \, h\,) \, \, + \, 9 \\ = 6 \, a \, + \, 6 \, h \, + \, 15 \\ \frac{k \, (\, a + h\,) \, - \, k \, (\, a\,)}{h} \, = \, \frac{(\, 6 \, a + 6 \, h + 15\,) \, - \, (\, 6 \, a + 9\,)}{h} \\ = \, \frac{6 \, h}{h} \\ = \, \frac{h \, (\, 6\,)}{h} \\ = \, 6 \end{array}$$

k(a) = 6a + 9

```
\begin{array}{c} k\,(\,a\,) = 6\,\,a \,+\, 9 \\ k\,(\,a + h\,) = 6\,\,(\,a \,+\, h\,) \,\,+\, 9 \\ = 6\,\,a \,+\, 6\,\,h \,+\, 9 \\ \frac{k\,(\,a + h\,) - k\,(\,a\,)}{h} = \frac{(6\,\,a + 6\,\,h + 9\,) - (6\,\,a + 9\,)}{h} \\ = \frac{6\,h}{h} \\ = \frac{h\,(\,6\,)}{h} \\ = 6 \end{array}
```

```
\begin{array}{c} k\,(\,a\,) = 6\,\,a \,+\, 9 \\ k\,(\,a + h\,) = 6\,\,(\,a \,+\, h\,) \,\,+\, 9 \\ = 6\,\,a \,+\, 6\,\,h \,+\, 3 \\ \frac{k\,(\,a + h\,) \,-\, k\,(\,a\,)}{h} = \frac{(6\,\,a + 6\,\,h + 21) \,-\, (6\,\,a + 9)}{h} \\ = \frac{6\,h}{h} \\ = \frac{h\,(\,6\,)}{h} \\ = 6 \end{array}
```

Solution