

1. Question 1

Solution:

- (a) A solution
- (b) B solution
- (c) From observation,

$$\begin{aligned}f(x) &= x^2 + 2x + 1 \\ &= (x + 1)^2\end{aligned}$$

So then,

$$\begin{aligned}g(x) &= x^2 + 2x + 4 \\ &= x^2 + 2x + 1 + 3 \\ &= (x + 1)^2 + 3 \\ &= f(x) + 3\end{aligned}$$

Then,

$$\begin{aligned}\frac{dg}{dx} &= \frac{df}{dx} \\ &= \boxed{2x + 2}\end{aligned}$$

2. Question 2

Solution:

Here we can see,

```
public static void main(String args[]) {  
    System.out.println("Hello, world!");  
}
```