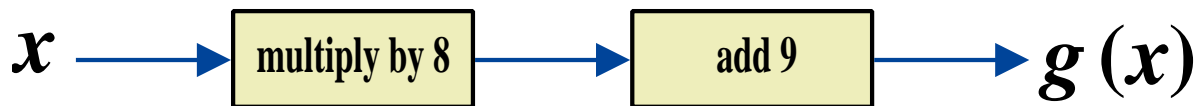


### 6.3 Homework

Marks Available: 21

#### Question 1



(a) Write down (i)  $g(x)$

(ii)  $g^{-1}(x)$

[ 2 marks ]

(b) Determine the value of,

(i)  $g(5)$

(ii)  $g^{-1}(33)$

(iii)  $g(0.5)$

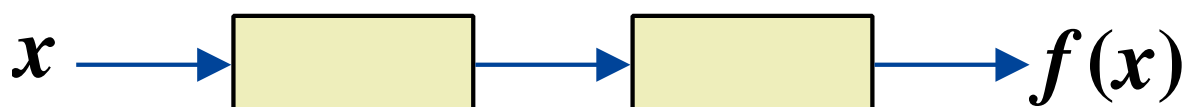
(iv)  $g^{-1}(1)$

[ 4 marks ]

#### Question 2

(a) Fill in the flow diagram for the function

$$f(x) = 3x - 7$$



[ 1 mark ]

(b) Write down  $f^{-1}(x)$

[ 1 mark ]

(c) Determine the value of,

(i)  $f(12)$

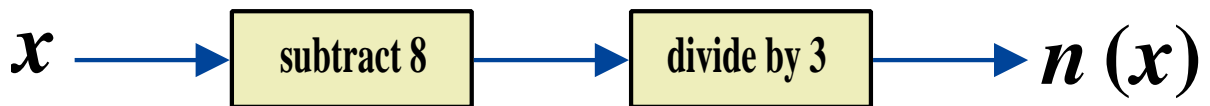
(ii)  $f^{-1}(11)$

(iii)  $f(1)$

(iv)  $f^{-1}(29)$

[ 4 marks ]

### Question 3



(a) Write down (i)  $n(x)$

(ii)  $n^{-1}(x)$

[ 2 marks ]

(b) Determine the value of,

(i)  $n(23)$

(ii)  $n^{-1}(9)$

(iii)  $n(41)$

(iv)  $n^{-1}(-2)$

[ 4 marks ]

### Question 4

Consider the function,  $k(x) = 9x + 7$   $x \in \mathbb{R}$

Find an expression for the inverse function  $k^{-1}(x)$

**HINT :** Draw a flow diagram.

[ 3 marks ]