

Figure 1 contains a subroutine that returns a value.

Figure 1

```

SUBROUTINE Work(a, b)
  x <- a + a
  y <- b + b
  c <- x + y
  RETURN c
ENDSUBROUTINE
    
```

a) Complete the trace table below when the subroutine call `Work(3, 7)` is made (you may not need all the rows in the table):

[3 marks]

a	b	x	y	c

b) A programmer wants to shorten the subroutine in Figure 1.

Write a single line of code to replace the lines:

```

x <- a + a
y <- b + b
c <- x + y
    
```

[2 marks]

.....

.....

c) Explain why your code is more efficient.

[2 marks]

.....

.....

d) What value is returned by the subroutine call `Work(p, 0)` where `p` is any positive integer?

[1 mark]

.....