Skill 22.3 Substituting into various expressions.

2 3 4

Q. If $c = 4$, find the value of: $3c + 1$

A.
$3c + 1$
$= 3 \times c + 1$ — *Expand 3c to 3 × c.*
$= 3 \times 4 + 1$ — *Substitute c with 4.*
$= 12 + 1$ — *Multiply 3 by 4.*
$= 13$ — *Add 12 and 1.*

Q. If $a = 4$ and $b = 6$, find the value of: $2ab$

A.
$2ab$
$= 2 \times a \times b$ — *2ab is the short expression for 2 × a × b*
$= 2 \times 4 \times 6$ — *Substitute a with 4 and b with 6.*
$= 8 \times 6$ — *Working from left to right, multiply 2 by 4.*
$= 48$ — *Then multiply 8 by 6.*

a) If $a = 4$, find the value of: $4a$

$= 4 \times a$
$= 4 \times 4$
$= 16$

b) If $m = 3$, find the value of: $2m$

c) If $j = 7$, find the value of: $5j$

d) If $h = 3$, find the value of: $4h - 10$

$= 4 \times h - 10$
$= 4 \times 3 - 10$
$= 12 - 10$
$= 2$

e) If $p = 4$, find the value of: $2p + 5$

f) If $k = 7$, find the value of: $3k - 12$

g) If $t = 3$ and $u = 2$, find the value of: $2tu$

$= 2 \times t \times u$
$= 2 \times 3 \times 2$
$= 6 \times 2$
$= 12$

h) If $y = 5$ and $z = 4$, find the value of: $2yz$

i) If $q = 3$ and $r = 7$, find the value of: $3qr$