1 $c = 4$
$d = 7$

(a) Work out the value of $3c + 2d$

$3(4) + 2(7)$ (1)
$= 12 + 14$
$= 26$ (1)

26

(2)

$p = -6$
$m = -2$

(b) Work out the value of $2p^2 + 3m$

$2(-6)^2 + 3(-2)$ (1)
$= 2(36) - 6$
$= 72 - 6$
$= 66$ (1)

66

(2)

There are 6 eggs in a small box of eggs.
There are 12 eggs in a large box of eggs.

Alex buys g small boxes of eggs and h large boxes of eggs.
He buys a total of T eggs.

(c) Write down a formula for T in terms of g and h.

Alex buys :
small eggs : $6g$
large eggs : $12h$

Total, $T = 6g + 12h$ (3)

$T = 6g + 12h$

(3)

(Total for Question 1 is 7 marks)

$P = 7w - 5y$

2 (c) Find the value of P when $w = 2$ and $y = 4$

$P = 7w - 5y$

$= 7(2) - 5(4)$ (1)

$= 14 - 20$

$= -6$

$P =$ -6 (1)

(2)

$Q = 2u^2 - 5$

(d) Find the value of Q when $u = -3$

$Q = 2u^2 - 5$

$= 2(-3)^2 - 5$ (1)

$= 2(9) - 5$

$= 13$

$Q =$ 13 (1)

(2)

(Total for Question 2 is 4 marks)

$P = 2a + 3b$

3 (b) Work out the value of P when $a = 5$ and $b = 8$

$P = 2(5) + 3(8)$ (1)

$= 10 + 24$

$= 34$ (1)

$P =$ 34

(2)

$P = 2a + 3b$

(c) Work out the value of a when $P = 16$ and $b = 20$

$16 = 2a + 3(20)$ (1)

$2a = 16 - 60$ (1)

$2a = -44$

$a = -22$ (1)

$a =$ -22

(3)

(Total for Question 3 is 5 marks)

4 $w = 5y^2 - y^3$

(a) Work out the value of w when $y = -2$

$W = 5(-2)^2 - (-2)^3$ (1)

$= 5(4) - (-8)$

$= 20 + 8$

$= 28$ (1)

$w =$ 28

(2)

(Total for Question 4 is 2 marks)

$t = ab - c$

$a = 1.5$ $b = 2.4$ $c = -5.6$

5 (b) Work out the value of t.

$t = ab - c$

$= (1.5)(2.4) - (-5.6)$ (1)

$= 3.6 - (-5.6)$

$= 3.6 + 5.6$

$= 9.2$ (1)

$t =$ 9.2

(2)

(Total for Question 5 is 2 marks)

$A = 8x - 3y$

6 (b) Work out the value of A when $x = 5$ and $y = 4$

$A = 8(5) - 3(4)$ (1)

$= 40 - 12$

$= 28$ (1)

$A =$ 28

(2)

(Total for Question 6 is 2 marks)

$Q = 5v^2 - w$

7 (d) Work out the value of Q when $v = \frac{1}{2}$ and $w = \frac{1}{4}$

$Q = 5\left(\frac{1}{2}\right)^2 - \frac{1}{4}$

$= 5\left(\frac{1}{4}\right) - \frac{1}{4}$ (1)

$= \frac{5}{4} - \frac{1}{4} = \frac{4}{4}$

$= 1$

$Q =$ 1 (1)

(2)

(Total for Question 7 is 2 marks)

$A = 3b - 5c$

8 (b) Work out the value of A when $b = 12$ and $c = 4$

$A = 3(12) - 5(4)$ (1)

$= 36 - 20$

$= 16$ (1)

$A =$ 16

(2)

(c) Solve $4p + 9 = 24$

$4p = 24 - 9$ (1)

$p = \frac{15}{4}$ (1)

$p =$ $\frac{15}{4}$

(2)

(Total for Question 8 is 4 marks)

$T = 5m - 6n$

9 (c) Work out the value of T when $m = 4.2$ and $n = -2.5$

$T = 5(4.2) - 6(-2.5)$ (1)

$= 21 + 15$

$= 36$ (1)

$T =$ 36

(2)

(Total for Question 9 is 2 marks)

10 $p = t - ac$

$t = 18$
$a = -3$
$c = 5$

(a) Work out the value of p

$p = 18 - (-3)(5)$ (1)

$= 18 + 15$

$= 33$ (1)

$p =$ 33

(2)

(Total for Question 10 is 2 marks)

$T = 5g + 4r$

11 (c) Work out the value of r when $T = 46$ and $g = 17$

$46 = 5(17) + 4r$ (1)

$46 = 85 + 4r$

$4r = -39$

$r = \frac{-39}{4} = -9.75$ (1) (1)

$r =$ −9.75

(3)

$P = m^2 - 4c$

(d) Work out the value of P when $m = -5$ and $c = 3$

$P = (-5)^2 - 4(3)$

$= 25 - 12$ (1)

$= 13$ (1)

$P =$ 13

(2)

(Total for Question 11 is 5 marks)

12 (c) Work out the value of $x^2 + 5y$ when $x = -3$ and $y = 2$

$(-3)^2 + 5(2)$ (1)

$9 + 10 = 19$ (1)

19

(2)

(Total for Question 12 is 2 marks)