Excel Matematik SPM
Tingkatan 4 Bab 2
Asas Nombor
Penyelesaian Lengkap

Praktis Formatif 2.1a

1 $13_{10} = 23_5$

2 (a)

Nilai tempat	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	0	1	1	0	0	1

Nilai bagi digit bergaris = $1 \times 2^3 = 8$

(b)

Nilai tempat	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	1	1	0	1	0	1

Nilai bagi digit bergaris = $1 \times 2^4 = 16$

(c)

Nilai tempat	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	0	0	1	0	0	1

Nilai bagi digit bergaris = $0 \times 2^5 = 0$

(d)

Nilai tempat	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	1	0	1	0	1	0	1

Nilai bagi digit bergaris = $1 \times 2^7 = 128$

3 (a)

Nilai tempat	8^2	8^1	8^0
Digit	5	6	3

Nilai bagi digit bergaris = $5 \times 8^2 = 320$

(b)

Nilai tempat	8^3	8^2	8^1	8^0
Digit	3	2	4	1

Nilai bagi digit bergaris = $3 \times 8^3 = 1\,536$

(c)

Nilai tempat	8^3	8^2	8^1	8^0
Digit	6	3	4	1

Nilai bagi digit bergaris = $6 \times 8^3 = 3\,072$

(d)

Nilai tempat	8^5	8^4	8^3	8^2	8^1	8^0
Digit	7	3	5	2	6	4

Nilai bagi digit bergaris = $7 \times 8^5 = 229\ 376$

4 (a)

Nilai tempat	5^2	5^1	5^0
Digit	4	3	2

Nilai bagi digit bergaris = $4 \times 5^2 = 100$

(b)

Nilai tempat	5^3	5^2	5^1	5^0
Digit	4	1	2	3

Nilai bagi digit bergaris = $4 \times 5^3 = 500$

(c)

Nilai tempat	5^4	5^3	5^2	5^1	5^0
Digit	3	2	1	0	4

Nilai bagi digit bergaris = $3 \times 5^4 = 1\,875$

(d)

Nilai tempat	5^4	5^3	5^2	5^1	5^0
Digit	2	4	0	1	3

Nilai bagi digit bergaris = $2 \times 5^4 = 1\ 250$

5 (a)

Nilai tempat	3^2	3^1	2^0
Digit	2	0	1

Nilai bagi digit bergaris = $2 \times 3^2 = 18$

(b)

Nilai tempat	4^3	4^2	4^1	4^0
Digit	3	2	1	0

Nilai bagi digit bergaris = $3 \times 4^3 = 192$

(c)

Nilai tempat	6^3	6^2	6^1	6^0
Digit	2	3	5	4

Nilai bagi digit bergaris = $3 \times 6^2 = 108$

(d)

Nilai tempat	7^4	7^3	7^2	7^1	7^0
Digit	6	2	3	5	0

Nilai bagi digit bergaris = $6 \times 7^4 = 14\ 406$

(e)

Nilai tempat	9^4	9^3	9^2	9^1	9^0
Digit	2	4	1	3	5

Nilai bagi digit bergaris = $4 \times 9^3 = 2\ 916$

6 (a)

Nilai tempat	2^4	2^3	2^2	2^1	2^0
Digit	1	0	1	1	0

$10110_2 = (1 \times 2^4) + (0 \times 2^3) + (1 \times 2^2) + (1 \times 2^1) + (0 \times 2^0)$

(b)

Nilai tempat	8^3	8^2	8^1	8^0
Digit	2	7	4	3

$2743_8 = (2 \times 8^3) + (7 \times 8^2) + (4 \times 8^1) + (3 \times 8^0)$

(c)

Nilai tempat	5^3	5^2	5^1	5^0
Digit	4	2	3	1

$4231_5 = (4 \times 5^3) + (2 \times 5^2) + (3 \times 5^1) + (1 \times 5^0)$

(d)

Nilai tempat	3^2	3^1	3^0
Digit	1	2	0

$120_3 = (1 \times 3^2) + (2 \times 3^1) + (0 \times 3^0)$

(e)

Nilai tempat	2^3	2^2	2^1	2^0
Digit	5	4	3	2

$5432_6 = (5 \times 2^3) + (4 \times 2^2) + (3 \times 2^1) + (2 \times 2^0)$

(f)

Nilai tempat	9^3	9^2	9^1	9^0
Digit	8	7	6	4

$8764_9 = (8 \times 9^3) + (7 \times 9^2) + (6 \times 9^1) + (4 \times 9^0)$

Praktis Formatif 2.1b

1 (a)

Nilai tempat	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	1	0	0	1	1

$110011_2 = (1\times 2^5)+(1\times 2^4)+(1\times 2^1)+(1\times 2^0) = 51_{10}$

(b)

Nilai tempat	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	0	1	1	1	1	0

$1011110_2 = (1\times 2^6)+(1\times 2^4)+(1\times 2^3)+(1\times 2^2)+(1\times 2^1) = 94_{10}$

(c)

Nilai tempat	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	1	0	1	1	0	1	1

$11011011_2 = (1\times 2^7)+(1\times 2^6)+(0\times 2^5)+(1\times 2^4)+(1\times 2^3)+(0\times 2^2)+(1\times 2^1)+(1\times 2^0) = 219_{10}$

2 (a)

Nilai tempat	8^3	8^2	8^1	8^0
Digit	2	1	3	7

$2137_8 = (2\times 8^3)+(1\times 8^2)+(3\times 8^1)+(7\times 8^0) = 1\ 119_{10}$

(b)

Nilai tempat	8^4	8^3	8^2	8^1	8^0
Digit	1	1	1	1	0

$11110_8 = (1\times 8^4)+(1\times 8^3)+(1\times 8^2)+(1\times 8^1)+(0\times 8^0) = 4\ 680_{10}$

(c)

Nilai tempat	8^4	8^3	8^2	8^1	8^0
Digit	7	6	5	3	4

$76534_8 = (7\times 8^4)+(6\times 8^3)+(5\times 8^2)+(3\times 8^1)+(4\times 8^0) = 32\ 092_{10}$

3 (a)

Nilai tempat	5^2	5^1	5^0
Digit	3	0	4

$304_8 = (3\times 5^2)+(0\times 5^1)+(4\times 5^0) = 79_{10}$

(b)

Nilai tempat	5^3	5^2	5^1	5^0
Digit	1	0	2	4

$1024_8 = (1\times 5^3)+(0\times 5^2)+(2\times 5^1)+(4\times 5^0) = 139_{10}$

(c)

Nilai tempat	5^4	5^3	5^2	5^1	5^0
Digit	1	2	3	0	4

$12304_8 = (1\times5^4)+(2\times5^3)+(3\times5^2)+(0\times5^1)+(4\times5^0) = 954_{10}$

4 (a)

Nilai tempat	3^2	3^1	3^0
Digit	2	1	2

$212_3 = (2\times3^2)+(1\times3^1)+(2\times3^0) = 23_{10}$

(b)

Nilai tempat	4^3	4^2	4^1	4^0
Digit	1	2	3	0

$1230_4 = (1\times4^3)+(2\times4^2)+(3\times4^1)+(0\times4^0) = 108_{10}$

(c)

Nilai tempat	6^3	6^2	6^1	6^0
Digit	5	3	2	0

$5320_6 = (5\times6^3)+(3\times6^2)+(2\times6^1)+(0\times6^0) = 1\,200_{10}$

(d)

Nilai tempat	7^3	7^2	7^1	7^0
Digit	2	6	1	4

$2614_6 = (2\times7^3)+(6\times7^2)+(1\times7^1)+(4\times7^0) = 991_{10}$

(e)

Nilai tempat	9^3	9^2	9^1	9^0
Digit	2	4	6	8

$2468_9 = (2\times9^3)+(4\times9^2)+(6\times9^1)+(8\times9^0) = 1\,844_{10}$

5 (a) $47_{10} = 101111_2$

2	47	Baki
2	23	− 1
2	11	− 1
2	5	− 1
2	2	− 1
2	1	− 0
	0	− 1

(b) $98_{10} = 1100010_2$

2	98	Baki
2	49	− 0
2	24	− 1
2	12	− 0
2	6	− 0
2	3	− 0
2	1	− 1
2	0	− 1

(c) $156_{10} = 10011100_2$

2	156	Baki
2	78	− 0
2	39	− 0
2	19	− 1
2	9	− 1
2	4	− 1
2	2	− 0
2	1	− 0
	0	− 1

6 (a) $128_{10}=200_8$

8	128	Baki
8	16	− 0
8	2	− 0
	0	− 2

(b) $2051_{10} = 4003_8$

8	2051	Baki
8	256	− 3
8	32	− 0
8	4	− 0
	0	− 4

(c) $10101_{10} = 23565_8$

8	10101	Baki
8	1262	− 5
8	157	− 6
8	19	− 5
8	2	− 3
	0	− 2

7 (a) $43_{10} = 133_5$

5	43	Baki
5	8	− 3
5	1	− 3
	0	− 1

(b) $410_{10} = 3120_5$

5	410	Baki
5	82	− 0
5	16	− 2
5	3	− 1
	0	− 3

(c) $733_{10} = 10413_5$

5	733	Baki
5	146	− 3
5	29	− 1
5	5	− 4
5	1	− 0
	0	− 1

8 (a) $26_{10} = 222_5$

$h = 222$

3	26	Baki
3	8	− 2
3	2	− 2
	0	− 2

(b) $56_{10} = 320_4$

$f = 320$

4	56	Baki
4	14	− 0
4	3	− 2
	0	− 3

(c) $420_{10} = 1540_6$

$g = 1540$

6	420	Baki
6	70	− 0
6	11	− 4
6	1	− 5
	0	− 1

(d) $2095_{10} = 6052_7$

$m = 6052$

7	2095	Baki
7	299	− 2
5	42	− 5
5	6	− 0
	0	− 6

(e) $6322_{10} = 8604_9$

$k = 8604$

9	6322	Baki
9	102	− 4
9	78	− 0
9	8	− 6
	0	− 8

9 $8\left[7(8^4)+6(8^2)+5\right]$

$= 7(8^5)+6(8^3)+8(5)$

$= 706050_8$

Nilai tempat	8^5	8^4	8^3	8^2	8^1	8^0
Digit	7	0	6	0	5	0

10 (a)

3	213	Baki
3	71	− 0
3	23	− 2
3	7	− 2
3	2	− 1
	0	− 2

$213_{10} = 21220_3$

(b)

Nilai tempat	9^4	9^3	9^2	9^1	9^0
Digit	3	5	0	0	7

35007_9

11

Nilai tempat	7^4	7^3	7^2	7^1	7^0
Digit	5	3	0	6	0

53060_7

12 (a) $199_{10} = 3013_4$

$\therefore h = 3013$

4	199	Baki
4	49	− 3
4	12	− 1
4	3	− 0
	0	− 3

(b) $6\left[3(6^4)+2(6^3)+5\right]$

$= 3(6^5)+2(6^4)+5(6)$

Nilai tempat	6^5	6^4	6^3	6^2	6^1	6^0
Digit	3	2	0	0	5	0

$= 320050_6$

13 (a)

10	100	110
2	4	6

Maka, $10100110_2 = 246_8$

(b)

100	001	000
4	1	0

Maka, $100001000_2 = 410_8$

(c)

11	101	111
3	5	7

Maka, $11101111_2 = 357_8$

14 (a)

1	3	0
1	011	000

Maka, $130_8 = 1011000_2$

(b)

4	0	7
100	000	111

Maka, $407_8 = 100000111_2$

(c)

2	5	6
10	101	110

Maka, $256_8 = 10101110_2$

15 (a)

Nilai tempat	2^3	2^2	2^1	2^0
Digit	1	1	1	1

$$1111_2 = \left(1\times 2^3\right) + \left(1\times 2^2\right) + \left(1\times 2^1\right) + \left(1\times 2^0\right) = 15_{10}$$

5 |	15	Baki
5 |	3	− 0 ↑
	0	− 3

$15_{10} = 30_5$

(b)

Nilai tempat	5^1	5^0
Digit	4	2

$$42_5 = \left(4\times 5^1\right) + \left(2\times 5^0\right) = 22_{10}$$

2 |	22	Baki
2 |	11	− 0 ↑
2 |	5	− 1
2 |	2	− 1
2 |	1	− 0
	0	− 1

$22_{10} = 10110_2$

(c)

Nilai tempat	8^1	8^0
Digit	7	4

$$74_8 = \left(7\times 8^1\right) + \left(4\times 8^0\right) = 60_{10}$$

5	60	Baki
5	12	− 0
5	2	− 2
	0	− 2

$60_{10} = 220_5$

(d)

Nilai tempat	5^1	5^0
Digit	4	3

$43_8 = (4 \times 5^1) + (3 \times 5^0) = 23_{10}$

8	23	Baki
8	2	− 7
	0	− 2

$23_{10} = 27_8$

16 (a)

Nilai tempat	4^2	4^1	4^0
Digit	2	3	1

$231_4 = (2 \times 4^2) + (3 \times 4^1) + (1 \times 4^0) = 45_{10}$

6	45	Baki
6	7	− 3
6	1	− 1
	0	− 1

$45_{10} = 113_6$

(b)

Nilai tempat	5^3	5^2	5^1	5^0
Digit	3	2	1	3

$3213_5 = (3 \times 5^3) + (2 \times 5^2) + (1 \times 5^1) + (3 \times 5^0) = 433_{10}$

3	433	Baki
3	144	− 1
3	48	− 0
3	16	− 0
3	5	− 1
3	1	− 2
	0	− 1

$433_{10} = 121001_3$

(c)

Nilai tempat	9^3	9^2	9^1	9^0
Digit	3	4	5	7

$3457_9 = (3\times9^3)+(4\times9^2)+(5\times9^1)+(7\times9^0) = 2\ 563_{10}$

7	2563	Baki
7	366	− 1
7	52	− 2
7	7	− 3
7	1	− 0
	0	− 1

$2\ 563_{10} = 10321_7$

Praktis Formatif 2.1c

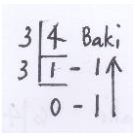
1 (a)

$$\begin{array}{r} {\scriptstyle 1\ 1\ 1\ \ } \\ 1101_2 \\ (+)\ 1011_2 \\ \hline 11000_2 \end{array}$$

$2_{10} = 10_2$
$3_{10} = 11_2$

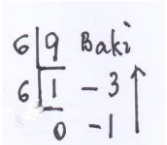
(b)

$$\begin{array}{r} {\scriptstyle 1\ 1\ \ } \\ 102_3 \\ (+)\ 221_3 \\ \hline 1100_3 \end{array}$$



(c)

$$\begin{array}{r} 523_6 \\ (+)\ 402_6 \\ \hline 1325_6 \end{array}$$



(d)

Nilai tempat	8^2	8^1	8^0
Digit	3	5	1

$351_8 = (3\times8^2)+(5\times8^1)+(1\times8^0) = 233_{10}$

Nilai tempat	8^2	8^1	8^0
Digit	4	6	7

$467_8 = (4\times8^2)+(6\times8^1)+(7\times8^0) = 311_{10}$

$233_{10} + 311_{10} = 544_{10} = 1040_8$

8	544	Baki
8	68	− 0
8	8	− 4
8	1	− 0
	0	− 1

2 (a)

$$\begin{array}{rr} & 333_4 \\ (-) & 202_4 \\ \hline & 131_4 \end{array}$$

(b)

Nilai tempat	7^2	7^1	7^0
Digit	6	3	2

$632_7 = (6\times7^2)+(3\times7^1)+(2\times8^0) = 317_{10}$

Nilai tempat	7^2	7^1	7^0
Digit	1	4	6

$146_7 = (1\times7^2)+(4\times7^1)+(6\times7^0) = 83_{10}$

$317_{10} - 83_{10} = 234_{10} = 453_7$

7	234	Baki
7	33	− 3
7	4	− 5
	0	− 4

c)

Nilai tempat	9^2	9^1	9^0
Digit	8	5	3

$853_9 = (8\times9^2)+(5\times9^1)+(3\times9^0) = 696_{10}$

Nilai tempat	9^2	9^1	9^0
Digit	4	1	7

$417_9 = (4\times9^2)+(1\times9^1)+(7\times9^0) = 340_{10}$

$696_{10} - 340_{10} = 356_{10} = 435_9$

9	356	Baki
9	39	− 5
9	4	− 3
	0	− 4

3

Nilai tempat	6^2	6^1	6^0
Digit	4	2	1

$421_6 = (4\times6^2)+(2\times6^1)+(1\times6^0) = 157_{10}$

Nilai tempat	8^2	8^1	8^0
Digit	7	6	4

$764_8 = (7\times 8^2)+(6\times 8^1)+(4\times 8^0) = 500_{10}$

$157_{10} + 500_{10} = 657_{10} = 10112_5$

5	657	Baki
5	131	− 2
5	26	− 1
5	5	− 1
5	1	− 0
	0	− 1

4

Nilai tempat	6^2	6^1	6^0
Digit	5	1	2

$512_6 = (5\times 6^2)+(1\times 6^1)+(2\times 6^0) = 188_{10}$

Nilai tempat	4^2	4^1	4^0
Digit	3	3	2

$332_8 = (3\times 4^2)+(3\times 4^1)+(2\times 4^0) = 62_{10}$

$188_{10} - 62_{10} = 126_{10} = 11200_5$

3	126	Baki
3	42	− 0
3	14	− 0
3	4	− 2
3	1	− 1
	0	− 1

Praktis Formatif 2.1d

1 $10_2 = 2_{10}$

Nilai tempat	3^2	3^1	3^0
Digit	2	2	2

$222_3 = (2\times 3^2)+(2\times 3^1)+(2\times 3^0) = 26_{10}$

$101_2 = 5_{10}$

Nilai tempat	4^2	4^1	4^0
Digit	1	2	1

$121_4 = (1\times 4^2)+(2\times 4^1)+(1\times 4^0) = 25_{10}$

$2x + 2y = 26$
$x + y = 13 \ \ldots (1)$

$5x + y = 25 \ \ldots (2)$

(2) – (1) : $4x = 12$
$x = 3$

Daripada (1) : $3 + y = 13$

$y = 10$

Maka, harga bagi sekeping kad ucapan dan 1 rim kertas A4 masing-masing ialah RM3 dan RM10.

2 $110_2 = 6_{10}$

$11_2 = 3$

Nilai tempat	6^3	6^2	6^1	6^0
Digit	2	1	2	0

$2120_6 = (2 \times 6^3) + (1 \times 6^2) + (2 \times 6^1) + (0 \times 6^0) = 480_{10}$

$1000_2 = 8_{10}$

Nilai tempat	7^3	7^2	7^1	7^0
Digit	1	1	1	1

$1111_7 = (1 \times 7^3) + (1 \times 7^2) + (1 \times 7^1) + (1 \times 7^0) = 400_{10}$

$6x + 3y = 480$

$2x + y = 160 \ldots (1)$

$8x + y = 400 \ \ldots (2)$

(2) – (1) : $6x = 240$

$x = 40$

Daripada (1) : $2(40) + y = 160$

$y = 80$

Maka, harga bagi sebuah buku rujukan tempatan dan sebuah buku rujukan import masing-masing ialah RM40 dan RM80.

3

Nilai tempat	3^2	3^1	3^0
Digit	2	0	2

$202_3 = (2 \times 3^2) + (0 \times 3^1) + (2 \times 3^0) = 20_{10}$

Nilai tempat	9^1	9^0
Digit	5	1

$51_9 = (5 \times 9^1) + (1 \times 9^0) = 46_{10}$

$x + y = 20 \ \ldots (1)$

$2x + 2y = 40 \ \ldots (1) \times 2$

$2x + 3y = 46 \ \ldots (2)$

(2) – (1) × 2 : $-y = -6$

$y = 6$

Daripada (1) : $x + 6 = 20$

$x = 14$

Maka, bilangan kg tembikai tempatan dan tembikai import yang dibeli masing-masing ialah 14 dan 6.

Praktis Sumatif 2

Soalan Objektif

1

Nilai tempat	8^2	8^1	8^0
Digit	7	5	2

$7 \times 8^2 = 448$

Jawapan: C

2

Nilai tempat	5^4	5^3	5^2	5^1	5^0
Digit	1	0	3	0	4

10304_5

Jawapan: B

3

2	7	3
10	111	011

$273_8 = 10111011_2$

Jawapan: A

4

$$\begin{array}{rl} & 567_8 \\ (-) & 432_8 \\ \hline & 135_8 \end{array}$$

Jawapan: A

5

Nilai tempat	8^2	8^1	8^0
Digit	5	6	7

$567_8 = (5 \times 8^2) + (6 \times 8^1) + (7 \times 8^0) = 375_{10}$

Nilai tempat	6^2	6^1	6^0
Digit	5	4	3

$543_8 = (5 \times 6^2) + (4 \times 6^1) + (3 \times 6^0) = 207_{10}$

$375_{10} - 207_{10} = 168_{10} = 20020_3$

3	168	Baki
3	56	− 0
3	18	− 2
3	6	− 0
3	2	− 0
	0	− 2

Jawapan: A

Soalan Struktur

1

Nilai tempat	6^4	6^3	6^2	6^1	6^0
Digit	2	0	3	0	1

$2 \times 6^4 = 2\ 592$

2

Nilai tempat	9^4	9^3	9^2	9^1	9^0
Digit	8	1	6	3	5

$6\times9^2 = 486$

3

Nilai tempat	5^3	5^2	5^1	5^0
Digit	1	2	0	4

1204_5

4

Nilai tempat	7^3	7^2	7^1	7^0
Digit	2	4	3	0

$7d = 21$

$d = 3$

5

Nilai tempat	2^6	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	1	0	0	1	0	1

1100101_2

6 $194_{10} = 1234_5$

$q = 2$

7

111	101	010
7	5	2

$111101010_2 = 752_8$

8

5	0	3
101	000	011

$503_8 = 101000011_2$

9

Nilai tempat	8^2	8^1	8^0
Digit	2	1	4

$214_8 = \left(2\times8^2\right)+\left(1\times8^1\right)+\left(4\times8^0\right) = 140_{10} = 1030_5$

5	140	Baki
5	28	− 0
5	5	− 3
5	1	− 0
	0	− 1

10

Nilai tempat	2^5	2^4	2^3	2^2	2^1	2^0
Digit	1	0	0	1	1	1

$100111_2 = \left(1\times2^5\right)+\left(1\times2^2\right)+\left(1\times2^1\right)+1$

$= 39_{10}$

$= 103_6$

$\therefore g = 103$

6	39	Baki
6	6	− 3
6	1	− 0
	0	− 1

11

Nilai tempat	8^3	8^2	8^1	8^0
Digit	1	0	4	6

$1046_8 = (1\times 8^3)+(4\times 8^1)+6$

$= 550_{10}$

$= 1\ 414_7$

$= 103_6$

7	550	Baki
7	78	− 4
7	11	− 1
7	1	− 4
	0	− 1

$t = 1414$

12 (a)

Nilai tempat	5^3	5^2	5^1	5^0
Digit	1	2	3	4

$1234_5 = (1\times 5^3)+(2\times 5^2)+(3\times 5^1)+(4\times 5^0) = 194_{10}$

$\therefore p = 194$

(b) $194_{10} = 21012_3$

$\therefore q = 21012$

3	194	Baki
3	64	− 2
3	21	− 1
3	7	− 0
3	2	− 1
	0	− 2

(c) $194_{10} = 235_9$

$\therefore r = 235$

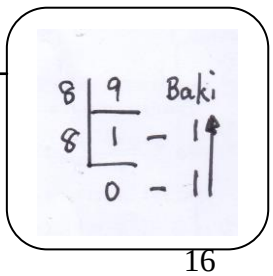
9	194	Baki
9	21	− 5
9	2	− 3
	0	− 2

13

$$\begin{array}{rl} & {\scriptstyle 1\ 1\ 1} \\ & 11110_2 \\ (+) & 11011_2 \\ \hline & 111001_2 \\ \hline \end{array}$$

14

$$\begin{array}{rl} & {\scriptstyle 1\ 1} \\ & 7650_8 \\ (+) & 1234_8 \\ \hline & \underline{11104_8} \\ \end{array}$$



15

Nilai tempat	5^3	5^2	5^1	5^0
Digit	4	4	1	0

$4410_5 = (4\times5^3)+(4\times5^2)+(1\times5^1) = 605_{10}$

Nilai tempat	5^3	5^2	5^1	5^0
Digit	1	4	3	2

$1432_5 = (1\times5^3)+(4\times5^2)+(3\times5^1)+(2\times5^0) = 242_{10}$

$625_{10} - 242_{10} = 363_{10} = 2423_5$

5	363	Baki
5	72	− 3
5	14	− 2
5	2	− 4
	0	− 2

16

$$\begin{array}{rr} & {\scriptstyle 4\ 8} \\ & 7\,\not{5}\,3\,1_8 \\ (-) & 2\,4\,6\,0_8 \\ \hline & 5\,0\,5\,1_8 \end{array}$$

17

Nilai tempat	9^3	9^2	9^1	9^0
Digit	3	2	1	8

$3218_9 = (3\times9^3)+(2\times9^2)+(1\times9^1)+(8\times9^0) = 2\ 366_{10}$

Nilai tempat	6^3	6^2	6^1	6^0
Digit	5	4	3	1

$5431_6 = (5\times6^3)+(4\times6^2)+(3\times6^1)+(1\times6^0) = 1\ 243_{10}$

$2\ 366_{10} + 1\ 243_{10} = 3\ 609_{10} = 7031_8$

8	3609	Baki
8	451	− 1
8	56	− 3
8	7	− 0
	0	− 7

18

Nilai tempat	7^3	7^2	7^1	7^0
Digit	6	3	2	1

$6321_7 = (6\times7^3)+(3\times7^2)+(2\times7^1)+(1\times7^0) = 2\ 220_{10}$

Nilai tempat	5^3	5^2	5^1	5^0
Digit	4	2	3	1

$4231_5 = (4\times5^3)+(2\times5^2)+(3\times5^1)+(1\times5^0) = 566_{10}$

$2\,220_{10} - 566_{10} = 1\,654_{10} = 11354_6$

6	1654	Baki
6	275	− 4
6	45	− 5
6	7	− 3
6	1	− 1
	0	− 1

19 $110_2 = 6_{10}$

$12_5 = (1\times5^1)+(2\times5^0)=7_{10}$

$350_6 = (3\times6^2)+(5\times6^1)=138_{10}$

$22_3 = (2\times3^1)+(2\times3^0)=8_{10}$

$21_4 = (2\times4^1)+(1\times4^0)=9_{10}$

$350_7 = (3\times7^2)+(5\times7^1)=182_{10}$

$6x+7y=138$ … (1)

$8x+9y=182$ … (2)

$48x+56y=1\,104$ … (1) × 8

(–) $48x+54y=1\,092$ … (2) × 6

$2y=12$

$y=6$

Daripada (1) : $6x+7(6)=138$

$x=16$

Maka, harga sekilogram bawang putih dan sekilogram bawang merah masing-masing ialah RM16 dan RM6.

20 $210_3 = (2\times3^2)+(1\times3^1)=21_{10}$

$322_4 = (3\times4^2)+(2\times4^1)+(2\times4^0)=58_{10}$

$134_5 = (1\times5^2)+(3\times5^1)+(4\times5^0)=44_{10}$

6	21	Baki
6	3	− 3
	0	− 3

$210_3 = 33_6$

6	58	Baki
6	9	− 4
6	1	− 3
	0	− 1

$322_4 = 134_6$

6	44	Baki
6	7	− 2
6	1	− 1
	0	− 1

$134_5 = 112_6$

Maka, kod rahsia itu ialah 33 134 112.

