Jawapan

Bab 2

1. (a) 122 ÷ 6 = 20 baki / *remainder* 2

122 tidak boleh dibahagi tepat dengan 6
122 *is not divisible by* 6.

Maka, 6 bukan faktor bagi 122.
Thus, 6 *is not a factor of* 122.

(b) 168 ÷ 14 = 12

168 boleh dibahagi tepat dengan 14.
168 *is divisible by* 14.

Maka, 14 ialah faktor bagi 168.
Thus, 14 *is a factor of* 168.

(c) 190 ÷ 12 = 15 baki / *remainder* 10
12 → *a factor of* 190

190 tidak boleh dibahagi tepat dengan 12
190 *is not divisible by* 12.

Maka, 12 bukan faktor bagi 190.
Thus, 12 *is not a factor of* 190.

2. (a) 1 × 18 = 18
2 × 9 = 18
3 × 6 = 18

Faktor bagi 18 ialah 1, 2, 3, 6, 9 dan 18.
Factors of 18 *are* 1, 2, 3, 6, 9 *and* 18.

(b) 1 × 44 = 44
2 × 22 = 44
4 × 11 = 44

Faktor bagi 44 ialah 1, 2, 4, 11, 22 dan 44.
Factors of 44 *are* 1, 2, 4, 11, 22 *and* 44.

(c) 1 × 60 = 60
2 × 30 = 60
3 × 20 = 60
4 × 15 = 60
6 × 10 = 60

Faktor bagi 60 ialah 1, 2, 3, 4, 6, 10, 15, 20, 30 dan 60.
Factors of 60 *are* 1, 2, 3, 4, 6, 10, 15, 20, 30 *and* 60.

3. (a) 8
(b) 6
(c) 16

4. (a) 1 × 40 = 33
2 × 20 = 40
4 × 10 = 40
5 × 8 = 40

Faktor bagi 40 ialah 1, 2, 4, 5, 8, 10, 20 dan 40.
Factors of 40 *are* 1, 2, 4, 5, 8, 10, 20 *and* 40.

Hasil tambah / *Sum*
= 1 + 2 + 4 + 5 + 8 + 10 + 20 + 40
= 90

(b) 1 × 65 = 65
5 × 13 = 65

Faktor bagi 65 ialah 1, 5, 13 dan 65.
Factors of 65 *are* 1, 5, 13 *and* 65.

Hasil tambah / *Sum*
= 1 + 5 + 13 + 65
= 84

5. (a) 3, 5
(b) 2, 11
(c) 2, 19
(d) 2, 5, 7
(e) 2, 5, 13
(f) 3, 5, 11

6. (a) 392

2	392
2	196
2	98
7	49
7	7
	1

(i) Faktor perdana
Prime factors
= 2 dan / *and* 7

(ii) 392 = 2 × 2 × 2 × 7 × 7

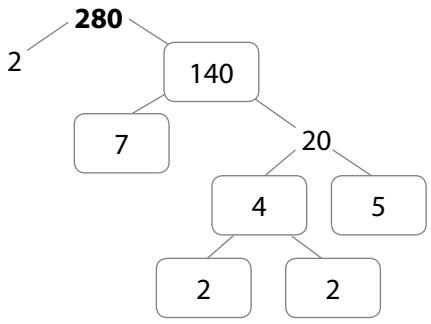
(b) 588

2	588
2	294
7	147
3	21
7	7
	1

(i) Faktor perdana
Prime factors
= 2, 3 dan / *and* 7

(ii) 588 = 2 × 2 × 3 × 7 × 7

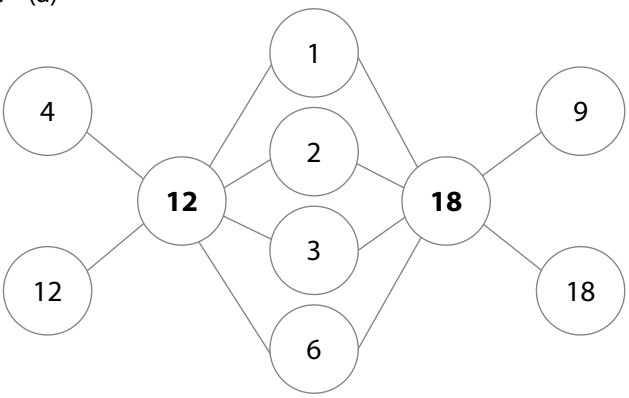
7.



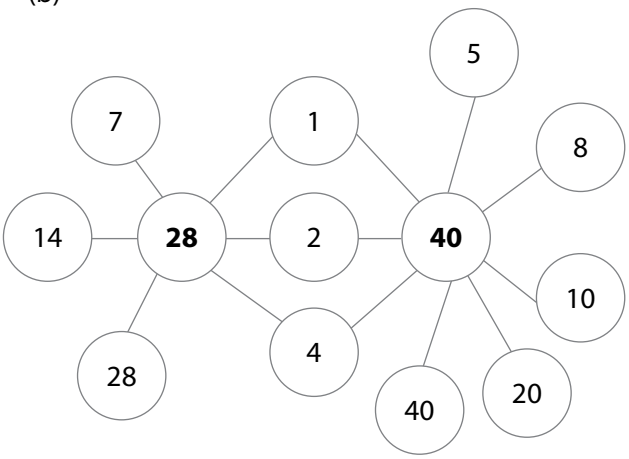
280 = 2 × 2 × 2 × 5 × 7

8. (a) ✓ (b) ✓
(c) ✗ (d) ✗

9. (a)



(b)



10. (a)

2	12 , 30
3	6 , 15
	2 , 5

FTSB / *HCF* $= 2 \times 3$
$= 6$

(b)

2	14 , 42
7	7 , 21
	1 , 3

FTSB / *HCF* $= 2 \times 7$
$= 14$

(c)

5	30 , 90 , 315
3	6 , 18 , 63
	2 , 6 , 21

FSTB / *HCF* $= 5 \times 3$
$= 15$

(d)

2	36 , 84 , 132
2	18 , 42 , 66
3	9 , 21 , 33
	3 , 7 , 11

FSTB / *HCF* $= 2 \times 2 \times 3$
$= 12$

(e)

3	27 , 54 , 108
3	9 , 18 , 36
3	3 , 6 , 12
	1 , 2 , 4

FSTB / *HCF* $= 3 \times 3 \times 3$
$= 27$

11. (a) (i) $1 \times 30 = 2 \times 15 = 3 \times 10 = 5 \times 6 = 30$

Faktor bagi 30 ialah 1, 2, 3, 5, 6, 10, 15 dan 30.
Factors of 30 *are* 1, 2, 3, 5, 6, 10, 15 *and* 30.

Faktor yang melebihi 5 ialah 6, 10, 15 dan 30.
Factors that are more than 5 *are* 6, 10, 15 *and* 30.

Maka / *Hence*, $x + y = 6 + 15$
$= 21$

(ii)

3	6 , 15
	2 , 5

FSTB / *HCF* = 3

(b) (i)

9	90 , 108
2	10 , 12
	5 , 6

FSTB / *HCF* $= 9 \times 2$
$= 18$

Maka, bilangan ahli yang terbanyak boleh disusun bagi setiap kumpulan ialah 18 orang murid.
Hence, the greatest number of members can be arranged in each group is 18 *students.*

(ii) Bilangan kumpulan murid lelaki
Number of groups of boys
$= 90 \div 18$
= 5 kumpulan / *groups*

Bilangan kumpulan murid perempuan
Number of groups of girls
$= 108 \div 18$
= 6 kumpulan / *groups*

(c) (i)

5	195 , 45
3	39 , 9
	13 , 3

FSTB / *HCF* $= 5 \times 3$
$= 15$

Bilangan terbesar murid yang akan menerima bilangan guli dan straw yang sama ialah 15 orang. Oleh itu, bilangan guli dan straw tersebut tidak cukup untuk 20 orang murid.
The biggest number of students that will receive the same number of marbles and straws is 15 *students. Hence, the numbers of marbles and straws are not enough for a class of* 20 *students.*

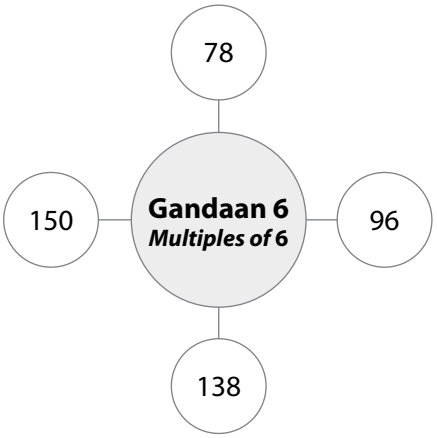
(ii) Bilangan guli / *Number of marbles*
= 195 ÷ 15
= 13

Bilangan straw / *Number of straws*
= 45 ÷ 15
= 3

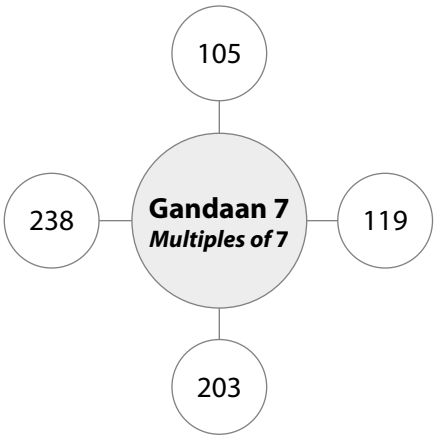
Maka, 15 orang murid akan menerima 13 biji guli dan 3 batang straw.
Hence, 15 *students will receive* 13 *marbles and* 3 *straws.*

12. Aktiviti PAK-21

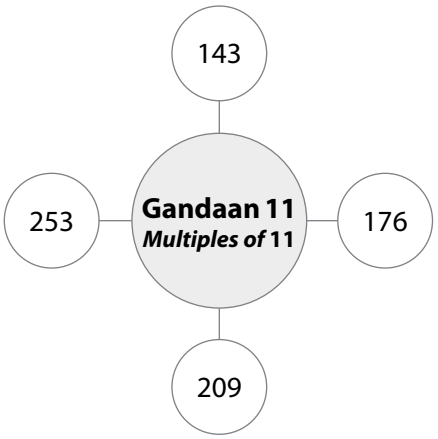
13. (a)



(b)



(c)



14. (a) 11, 22, 33, 44, 55
(b) 72, 96, 120, 144, 168
(c) 96, 128, 160, 192, 224

15.

Nombor bulat *Whole numbers*	**Gandaan bagi nombor bulat** *Multiples of whole numbers*	**Tiga gandaan sepunya pertama** *First three common multiples*
(a) 18 dan / *and* 42	Gandaan 18 / *Multiples of* 18: 18, 36, 54, 72, [90], [108], [126], … Gandaan 42 / *Multiples of* 42: 42, 84, [126], [168], [210], … Gandaan sepunya pertama = [126] *First common multiple*	126, 252, 378
(b) 36 dan / *and* 48	Gandaan 36 / *Multiples of* 36: 36, 72, 108, [144], [180], [216], … Gandaan 48 / *Multiples of* 48: 48, 96, [144], [192], [240], … Gandaan sepunya pertama = [144] *First common multiple*	144, 288, 432

16. (a) Gandaan bagi 18 / *Multiples of* 18 :
18, 36, 54, 72, 90, (108), …
Gandaan bagi 36 / *Multiples of* 36 :
36, 72, (108), …
Gandaan bagi 54 / *Multiples of* 54 :
54, (108), …
GSTK bagi 18, 36 dan 54 ialah 108.
LCM of 18, 36 *and* 54 *is* 108.

(b) Gandaan bagi 25 / *Multiples of* 25 :
25, 50, 75, 100, 125, 150, 175, (200), …
Gandaan bagi 40 / *Multiples of* 40 :
40, 80, 120, 160, (200), …
Gandaan bagi 50 / *Multiples of* 50 :
50, 100, 150, (200), …
GSTK bagi 25, 40 dan 50 ialah 200.
LCM of 25, 40 *and* 50 *is* 200.

17. (a)

2	12 , 15 , 25
2	6 , 15 , 25
3	3 , 15 , 25
5	1 , 5 , 25
5	1 , 1 , 5
	1 , 1 , 1

GSTK / *LCM* $= 2 \times 2 \times 3 \times 5 \times 5$
$= 300$

(b)

2	18 , 63 , 81
3	9 , 63 , 81
3	3 , 21 , 27
3	1 , 7 , 9
3	1 , 7 , 3
7	1 , 7 , 1
	1 , 1 , 1

GSTK / *LCM* $= 2 \times 3 \times 3 \times 3 \times 3 \times 7$
$= 1\,134$

18. (a) FSTB / *HCF* : $10 = (2) \times (5)$
GSTK / *LCM* : $60 = \cancel{2} \times \cancel{2} \times (3) \times 5$
$20 = \cancel{2} \times \cancel{2} \times \cancel{5}$

2	20 *p*
5	10
	2 3

FSTB / *HCF*

$\therefore p = 2 \times 3 \times 5$
$= 30$

(b) $18 = 2 \times 3 \times 3$
$30 = 2 \times 3 \times 5$
2 3 ← FSTB / *HCF*
2 3 3 5 ← GSTK / *LCM*

FSTB bagi 18 dan 30
HCF of 18 *and* 30
$= 2 \times 3$
$= 6$

GSTK bagi 18 dan 30
LCM of 18 *and* 30
$= 2 \times 3 \times 3 \times 5$
$= 90$

(c)

2	72 , 56
4	36 , 28
	9 , 7

FSTB / *HCF* $= 2 \times 4$
$= 8$

8	72 , 56
9	9 , 7
7	1 , 7
	1 , 1

GSTK / *LCM* $= 8 \times 9 \times 7$
$= 504$

$\therefore$ Hasil tambah FSTB dan GSTK
Sum of HCF and LCM
$= 504 + 8$
$= 512$

(d)

4	12 , 80
3	3 , 20
20	1 , 20
	1 , 1

GSTK bagi 12 dan 80
LCM of 12 *and* 80
$= 4 \times 3 \times 20$
$= 240$

Maka, Zuria adalah pelanggan ke-240.
Hence, Zuria is the 240*th customer.*

(e) (i)

3	6 , 15
2	2 , 5
5	1 , 5
	1 , 1

GSTK bagi 6 dan 15 / *LCM of* 6 *and* 15
$= 3 \times 2 \times 5$
$= 30$

Maka, Asyraf perlu menjawab minimum 30 soalan dengan betul.
Hence, Asyraf needs to answer minimum of 30 *questions correctly.*

(ii) Bilangan pen yang dimenangi Asyraf
Number of pens won by Asyraf
$= 30 \div 6$
$= 5$

Jumlah bayaran Cikgu Ng
Total payment by Teacher Ng
= RM6.30 × 5
= RM31.50

Bilangan beg yang dimenangi Asyraf
Number of bags won by Asyraf
= 30 ÷ 15
= 2

Jumlah bayaran Cikgu Lee
Total payment by Teacher Lee
= RM14.90 × 2
= RM29.80

Oleh itu, Cikgu Ng berbelanja lebih untuk membeli hadiah yang dimenangi oleh Asyraf.
Hence, Teacher Ng spends more to buy the prizes won by Asyraf.

(iii) Jumlah bayaran Cikgu Lee
Total payment by Teacher Lee
= RM14.90 × 4
= RM59.60

Beza antara perbelanjaan kedua-dua guru tersebut
Difference between both teachers' spend
= RM59.60 – RM31.50
= RM28.10

Praktis Masteri 2

BAHAGIAN A

1. **A**: 259 ÷ 9 = 28.778
B: 341 ÷ 9 = 37.889
C: 563 ÷ 9 = 62.556
D: 594 ÷ 9 = 66

Jawapan / *Answer*: **D**

2. Tiga gandaan pertama bagi 4 antara 20 dan 40
Three first multiples of 4 *between* 20 *and* 40
= 24, 28, 32

Hasil tambah
Sum
= 24 + 28 + 32
= 84

Jawapan / *Answer*: **B**

3.

2	4	6
	2	3

FSTB / *HCF*
= 2

2	4	6
2	2	3
3	1	3
	1	1

GSTK / *LCM*
= 2 × 2 × 3
= 12

Beza / *Difference*
= 12 – 2
= 10

Jawapan / *Answer*: **B**

4.

2	12	36
2	6	18
3	3	9
	1	3

FSTB / *HCF*
= 2 × 2 × 3
= 12

Jawapan / *Answer*: **C**

BAHAGIAN B

5. (a)

2 × 3 × 3 × 3 = 54	FSTB / *HCF*
3 × 3 = 9	GSTK / *LCM*

(b)

1	(2)	6	(17)	34	51

102 = 2 × 51
= 2 × 3 × 17

Faktor perdana bagi 102
Prime factors of 102
2, 17

6. (a)

3	✓
6	✓

(b)

[2]	12	18
[2]	[6]	[9]
[3]	3	9
[2]	1	3
	1	1

GSTK bagi 12 dan 18
LCM of 12 *and* 18
= 2 × 2 × 3 × 3 = 36

BAHAGIAN C

7. (a) 2, 6, 12

(b)
5	15 , 30 , 40
2	3 , 6 , 8
3	3 , 3 , 4
4	1 , 1 , 4
	1 , 1 , 1

GSTK bagi 15, 30 dan 40
LCM of 15, 30 *and* 40
= 5 × 2 × 3 × 4
= 120

Maka, bilangan terbesar pen yang ada dalam kotak itu ialah 120 batang.
Hence, the largest possible number of pens in the box is 120.

(c) (i)
4	16 , 24
2	4 , 6
	2 , 3

FSTB bagi 16 dan 24
HCF of 16 *and* 24
= 4 × 2
= 8

Maka, 8 orang rakannya akan mendapat satu beg kudap-kudapan itu.
Hence, 8 *of her friends will get a goody bag.*

(ii) Bilangan tin minuman
Number of canned drinks
= 16 ÷ 8
= 2

Bilangan bungkus keropok
Number of packets of crackers
= 24 ÷ 8
= 3

8. (a) (i) 24, 48
(ii) 24

(b)
8	32 , 40
4	4 , 5
5	1 , 5
	1 , 1

GSTK bagi 32 dan 40
LCM of 32 *and* 40
= 8 × 4 × 5
= 160

Bilangan kotak *A*
Number of boxes A
= 160 ÷ 40
= 4

Bilangan kotak *B*
Number of boxes B
= 160 ÷ 32
= 5

(c) (i) 2 × 2 × 3 × 5 × 3 × 11 = 1 980
2 × 2 × 3 × 5 × 3 × 13 = 2 340

(ii) Katakan nilai yang berubah ialah *p*.
Let the changing value be p.

$2 \times 2 \times 3 \times 5 \times 3 \times p = 6\,000$
$180 \times p = 6\,000$
$p = 6\,000 \div 180$
$= 33.33$

Nombor perdana yang kurang daripada 33 ialah 31.
Prime number that is less than 33 *is* 31.

Maka / *Hence*, 180 × 31 = 5 580

9. (a) (i) 12
(ii) 40
(iii) 60

(b) (i) 1 × 55 = 55
5 × 11 = 55

Faktor perdana bagi 55 = 5, 11
Prime factors of 55

Hasil tambah faktor perdana = 5 + 11
Sum of prime factor = 16

(ii)
2	4	9	12
2	2	9	6
3	1	9	3
3	1	3	1
	1	1	1

GSTK bagi 4, 9 dan 12
LCM of 4, 9 *and* 12
= 2 × 2 × 3 × 3
= 36

(c) (i)
2	210	360
3	105	180
5	35	60
	7	12

Bilangan maksimum murid dalam satu barisan mengikut jantina
Maximum number of pupils in a row according to gender
= 2 × 3 × 5
= 30

(ii) Bilangan baris murid lelaki
Number of rows for male pupils
= 210 ÷ 30
= 7

Bilangan baris murid perempuan
Number of rows for female pupils
= 360 ÷ 30
= 12

Fokus KBAT

(a) Faktor bagi / *Factors of* 40: 1, 2, 4, 5, 8, 10, 20, 40
Faktor bagi / *Factors of* 32: 1, 2, 4, 8, 16, 32
Faktor bagi / *Factors of* 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Faktor sepunya bagi 40, 32 dan 48 ialah 1, 2, 4 dan 8. Maka kumpulan yang dapat dibentuk oleh Encik Amir ialah seperti jadual di bawah.
The common factors of 40, 32 *and* 48 *are* 1, 2, 4 *and* 8. *Hence, the groups that can be formed by Encik Amir are as in table below.*

Bilangan kumpulan *Number of groups*	**Bilangan murid dalam setiap kumpulan** *Number of students in each group*			**Jumlah murid dalam setiap kumpulan** *The total students in each group*
	Sekolah Sri Rahmat *Sri Rahmat School*	**Sekolah Gading** *Gading School*	**Sekolah Desa Damai** *Desa Damai School*	
2	20	16	24	60
4	10	8	12	30
8	5	4	6	15

(b) Adalah lebih sesuai bagi Encik Amir untuk membentuk 8 kumpulan yang terdiri daripada 5 orang murid Sekolah Sri Rahmat, 4 orang murid Sekolah Gading dan 6 orang murid Sekolah Desa Damai. Ini kerana bilangan murid dalam setiap kumpulan adalah tidak terlalu ramai dan ini akan memudahkan setiap murid mengambil bahagian dalam aktiviti yang akan dijalankan sepanjang perkemahan.
It is suitable for Encik Amir to form 8 *groups that consist of* 5 *students of Sri Rahmat School,* 4 *students of Gading School and 6 students of Desa Damai School. This is because the number of students in each group is not too many and it will be easy for each of the students to take part in the activities that will be held through the camp.*