BAB 1

Pola dan Jujukan
Patterns and Sequences

Bahagian A/*Section A*

1.1 Pola/*Patterns*

1 Rajah 1 menunjukkan satu urutan nombor.
Diagram 1 shows a number sequence.

38, 41, *P*, 47, 50, ...

Rajah 1/*Diagram 1*

Antara berikut, yang manakah mewakili *P*?
Which of the following represents P?

A 43 **C** 45
B 44 **D** 46

2 Rajah 2 menunjukkan satu urutan nombor.
Diagram 2 shows a number sequence.

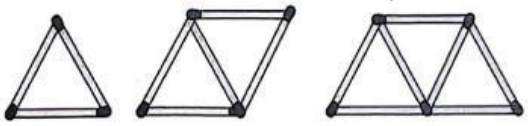
21, 16, 11, 6, 1, ...

Rajah 2/*Diagram 2*

Antara berikut, yang manakah benar tentang pola bagi urutan nombor itu?
Which of the following is true about the pattern of the number sequence?

A Menambah 4 kepada nombor sebelumnya
Add 4 to the previous number
B Menolak 4 daripada nombor sebelumnya
Subtract 4 from the previous number
C Menambah 5 kepada nombor sebelumnya
Add 5 to the previous number
D Menolak 5 daripada nombor sebelumnya
Subtract 5 from the previous number

3 Rajah 3 menunjukkan beberapa batang mancis yang disusun mengikut suatu pola.
Diagram 3 shows several matchsticks that are arranged according to a pattern.



Rajah 3/*Diagram 3*

Nyatakan pola bagi bilangan batang mancis.
State the pattern for the number of matchsticks.

A Menambah 2 kepada susunan sebelumnya
Add 2 to the previous pattern
B Menambah 3 kepada susunan sebelumnya
Add 3 to the previous pattern
C Menolak 2 daripada susunan sebelumnya
Subtract 2 from the previous pattern
D Menolak 3 daripada susunan sebelumnya
Subtract 3 from the previous pattern

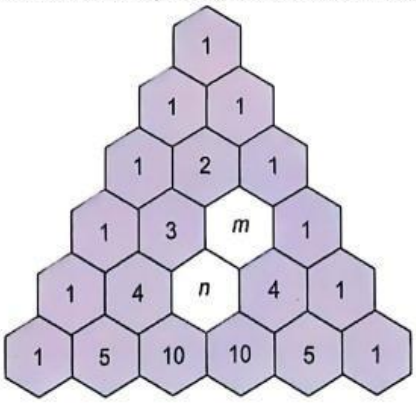
4 Diberi satu urutan nombor 5, 13, 21, 29, *x*. Tentukan nilai *x*.
Given a number sequence 5, 13, 21, 29, x. Determine the value of x.

A 37
B 38
C 39
D 42

5 Antara berikut, yang manakah pola bagi urutan nombor 7, 14, 21, 28, 35, ...?
Which of the following is the pattern for the number sequence 7, 14, 21, 28, 35, ... ?

A Mendarab nombor sebelumnya dengan 2
Multiply the previous number by 2
B Menambah 2 kepada nombor sebelumnya
Add 2 to the previous number
C Mendarab nombor sebelumnya dengan 7
Multiply the previous number by 7
D Menambah 7 kepada nombor sebelumnya
Add 7 to the previous number

6 Rajah 4 menunjukkan sebahagian daripada Segi Tiga Pascal.
Diagram 4 shows a part of the Pascal's Triangle.



Rajah 4/*Diagram 4*

Cari nilai *m* dan nilai *n*.
Find the value of m and of n.

A $m = 3, n = 5$ **C** $m = 3, n = 8$
B $m = 3, n = 6$ **D** $m = 3, n = 9$

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7 Antara berikut, yang manakah urutan Nombor Fibonacci?
Which of the following is a Fibonacci Numbers sequence?

A 13, 21, 34, 55, 89, ...
B 6, 12, 18, 24, 32, ...
C 4, 9, 16, 25, 36, ...
D 1, 1, 3, 4, 8, 13, ...

8 Rajah 5 menunjukkan urutan Nombor Fibonacci.
Diagram 5 shows a Fibonacci Numbers sequence.

1, 1, 2, 3, 5, p, 13, 21, ...

Rajah 5/*Diagram 5*

Cari nilai p.
Find the value of p.

A 6
B 7
C 8
D 9

9 Jadual 1 menunjukkan waktu yang berbeza bagi ujian Matematik yang dijalankan secara dalam talian di sebuah sekolah.
Table 1 shows the different times at which a Mathematics test will be conducted online in a school.

Kelas *Class*	Waktu *Time*
Pertama/*First*	8:30 a.m.
Kedua/*Second*	9:45 a.m.
Ketiga/*Third*	11:00 a.m.
Keempat/*Fourth*	12:15 p.m.

Jadual 1/*Table 1*

Jika waktu ujian itu mengikut suatu pola tertentu, pada pukul berapakah ujian bagi kelas ketujuh dijalankan?
If the test times follow a pattern, at what time will the test for the seventh class be conducted?

A 1:30 p.m.
B 1:45 p.m.
C 2:45 p.m.
D 4:00 p.m.

10 Rajah 6 menunjukkan suatu corak yang dilukis mengikut suatu pola tertentu.
Diagram 6 shows a pattern drawn according to a certain pattern.

Rajah 6/*Diagram 6*

Antara berikut, yang manakah benar tentang pola itu?
Which of the following is true about the pattern?

A Menolak 2 bulatan daripada bulatan sebelumnya
Subtract 2 circles from the previous circles
B Menolak 4 bulatan daripada bulatan sebelumnya
Subtract 4 circles from the previous circles
C Menambah 2 bulatan kepada bulatan sebelumnya
Add 2 circles to the previous circles
D Menambah 8 bulatan kepada bulatan sebelumnya
Add 8 circles to the previous circles

1.2 Jujukan/*Sequences*

11 Rajah 7 menunjukkan empat jujukan nombor, P, Q, R dan S.
Diagram 7 shows four number sequences, P, Q, R and S.

P : 6 , 8, 10, 12, ...
Q : 8, 16, 24, 32, ...
R : 1, 7, 13, 19, ...
S : 50, 40, 30, 20, ...

Rajah 7/*Diagram 7*

Antara pernyataan berikut, yang manakah benar?
Which of the following statements is true?

A Pola bagi jujukan P ialah menambah 6 kepada nombor sebelumnya
The pattern for sequence P is add 6 to the previous number
B Pola bagi jujukan Q ialah menambah 4 kepada nombor sebelumnya
The pattern for sequence Q is add 4 to the previous number
C Pola bagi jujukan R ialah menambah 7 kepada nombor sebelumnya
The pattern for sequence R is add 7 to the previous number
D Pola bagi jujukan S ialah menolak 10 daripada nombor sebelumnya
The pattern for sequence S is subtract 10 from the previous number

12 Antara urutan nombor berikut, yang manakah jujukan?
Which of the following sets of numbers is a sequence?

A $\frac{1}{4}, 1\frac{1}{2}, 2\frac{1}{2}, 3\frac{1}{3}, ...$
B 4, 5, −7, 10, −14, ...
C 5, 12, 19, 26, 33, ...
D 21, 18, 15, 13, 9, ...

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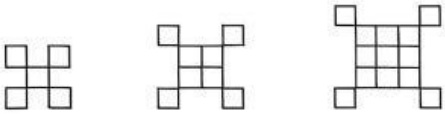
13 Cari nilai m bagi jujukan nombor
$m, -1, 2, 5, 8, \ldots$
Find the value of m in the number sequence
$m, -1, 2, 5, 8, \ldots$

A -5
B -4
C -3
D -2

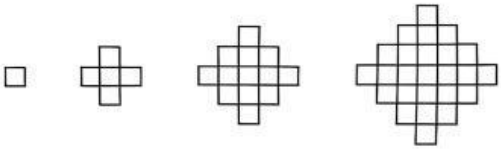
14 Antara corak berikut, yang manakah merupakan jujukan?
Which of the following patterns is a sequence?

A

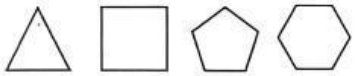
B



C



D



1.3 Pola dan Jujukan
Patterns and Sequences

15 Diberi bahawa sebutan ke-n bagi suatu jujukan nombor ialah $T_n = n(2n - 1)$, dengan keadaan $n = 1, 2, 3, \ldots$ Cari sebutan ke-7.
It is given that the nth term of a number sequence is $T_n = n(2n - 1)$, such that $n = 1, 2, 3, \ldots$ Find the 7th term.

A 45
B 66
C 91
D 120

16 Diberi jujukan nombor $-5, -1, 3, 7, \ldots$. Tentukan sebutan kelapan bagi jujukan itu.
Given the number sequence $-5, -1, 3, 7, \ldots$. Determine the eighth term of the number sequence.

A 23
B 21
C 20
D 19

17 Puan Maryam perlu makan ubat tiga kali sehari. Dia makan ubat yang pertama pada pukul 6:30 a.m. Pada pukul berapakah dia perlu makan ubat untuk kali yang ketiga?
Puan Maryam needs to take medicine three times a day. She took the first medicine at 6:30 a.m. At what time does she need to take the third medicine?

A 6:30 p.m.
B 8:30 p.m.
C 9:30 p.m.
D 10:30 p.m.

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