Started on	Friday, 10 January 2025, 1:28 AM
State	Finished
Completed on	Friday, 10 January 2025, 1:28 AM
Time taken	7 secs
Marks	0.00/15.00
Grade	**0.00** out of 108.00 (**0**%)

Question 1

Incorrect

Mark 0.00 out of 1.00

EN: Find (if any) three prime numbers $x < y < z$ such that $xyz = 7535$. If such prime numbers do not exist write "**None**" without quotation marks.

ID: Carilah (jika ada) tiga bilangan prima $x < y < z$ yang memenuhi $xyz = 7535$. Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
x = ...
y = ...
z = ...

# erase ...  and put a number or type "None" without quotation marks
```

Your code failed one or more hidden tests.
Your code must pass all tests to earn any marks. Try again.

▾ **Show/hide question author's solution (Python3)**

```
1  x = 5
2  y = 11
3  z = 137
4
5  # erase ...  and put a number or type "None" without quotation marks
6  # hapus ...  dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

Incorrect

Marks for this submission: 0.00/1.00.

Question 2

Not answered

Mark 0.00 out of 1.00

EN: Find (if any) three prime numbers x, y, and z such that $xyz = 3597$. If such prime numbers do not exist write "**None**" without quotation marks.

ID: Carilah (jika ada) tiga bilangan prima x, y, dan z yang memenuhi $xyz = 3597$. Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
x = ...
y = ...
z = ...

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

▾ **Show/hide question author's solution (Python3)**

```
x = 3
y = 11
z = 109

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

Question 3

Not answered

Mark 0.00 out of 1.00

EN: Find (if any) three integers x, y, and z such that $x^2 + z^2 = 2xz - y^2$ but $x \neq y \neq z$ (all x, y, and z are different). If such integers do not exist write "**None**" without quotation marks.

ID: Carilah (jika ada) tiga bilangan bulat x, y, dan z yang memenuhi $x^2 + z^2 = 2xz - y^2$ tetapi $x \neq y \neq z$ (semua x, y, dan z berbeda). Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
x = ...
y = ...
z = ...

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

▾ **Show/hide question author's solution (Python3)**

```
x = None
y = None
z = None

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

Question 4

Not answered

Mark 0.00 out of 1.00

EN: Find (if any) three integers x, y, and z such that $y^2 + z^2 + 2x^2 - 2yz = 0$ but $x \neq y \neq z$ (all x, y, and z are different). If such integers do not exist write "**None**" without quotation marks.

ID: Carilah (jika ada) tiga bilangan bulat x, y, dan z yang memenuhi $y^2 + z^2 + 2x^2 - 2yz = 0$ tetapi $x \neq y \neq z$ (semua x, y, dan z berbeda). Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
x = ...
y = ...
z = ...

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

▾ **Show/hide question author's solution (Python3)**

```
x = None
y = None
z = None

# erase ...  and put a number or type "None" without quotation marks
# hapus ... dan berikan bilangan atau ketik "None" tanpa tanda kutip
```

Question 5

Not answered

Mark 0.00 out of 1.00

EN: An integer m is divisible by an integer d if there is an integer k such that $m = k \cdot d$. Suppose a and b are integers such that a is divisible by 9 and b is divisible by 6.

Suppose we consider the following statements:

1. $S1$: $a + b$ is always divisible by 15.
2. $S2$: ab is always divisible by 18.
3. $S3$: $2a + b$ is always odd .
4. $S4$: $a(b + 1)$ is always divisible by 3.
5. $S5$: $a - 5b$ is always even.

Choose all statements that are true based on the previous assumption. Write your answer in the following Python format:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

For example, if you think that $S1$, $S2$, and $S3$ are the correct choices while $S4$ and $S5$ are incorrect, then you need to write

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

ID: Sebuah bilangan bulat m habis dibagi d jika terdapat bilangan bulat k sehingga $m = k \cdot d$. Misalkan a dan b adalah bilangan bulat dengan sifat a habis dibagi 9 dan b habis dibagi 6.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1. $S1$: $a + b$ selalu habis dibagi 15.
2. $S2$: ab selalu habis dibagi 18.
3. $S3$: $2a + b$ selalu ganjil.
4. $S4$: $a(b + 1)$ selalu habis dibagi 3.
5. $S5$: $9a - 5b$ selalu genap.

Piihlah semua pernyataan yang benar berdasarkan asumsi sebelumnya. Tuliskan jawaban Anda dalam format Python berikut:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

Sebagai contoh, jika Anda berpikir bahwa $S1$, $S2$, dan $S3$ adalah jawaban yang benar sedangkan $S4$ dan $S5$ salah, maka Anda perlu menulis

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
S1 = True/False
S2 = True/False
S3 = True/False
S4 = True/False
S5 = True/False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

▾ Show/hide question author's solution (Python3)

```
S1 = False
S2 = True
S3 = False
S4 = True
S5 = False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

Question 6

Not answered

Mark 0.00 out of 1.00

EN: An integer m is divisible by an integer d if there is an integer k such that $m = k \cdot d$. Suppose a and b are integers such that a is divisible by 3 and b is divisible by 7.

Suppose we consider the following statements:

1. $S1$: $a + b$ is always divisible by 10.
2. $S2$: ab is always divisible by 7.
3. $S3$: $2a + b$ is always even.
4. $S4$: $a(b + 1)$ is always divisible by 3.
5. $S5$: $9a - 5b$ is always odd.

Choose all statements that are true based on the previous assumption. Write your answer in the following Python format:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

For example, if you think that $S1$, $S2$, and $S3$ are the correct choices while $S4$ and $S5$ are incorrect, then you need to write

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

ID: Sebuah bilangan bulat m habis dibagi d jika terdapat bilangan bulat k sehingga $m = k \cdot d$. Misalkan a dan b adalah bilangan bulat dengan sifat a habis dibagi 3 dan b habis dibagi 7.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1. $S1$: $a + b$ selalu habis dibagi 10.
2. $S2$: ab selalu habis dibagi 7.
3. $S3$: $2a + b$ selalu genap.
4. $S4$: $a(b + 1)$ selalu habis dibagi 3.
5. $S5$: $9a - 5b$ selalu ganjil.

Piihlah semua pernyataan yang benar berdasarkan asumsi sebelumnya. Tuliskan jawaban Anda dalam format Python berikut:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

Sebagai contoh, jika Anda berpikir bahwa $S1$, $S2$, dan $S3$ adalah jawaban yang benar sedangkan $S4$ dan $S5$ salah, maka Anda perlu menulis

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
S1 = True/False
S2 = True/False
S3 = True/False
S4 = True/False
S5 = True/False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

▾ Show/hide question author's solution (Python3)

```
S1 = False
S2 = True
S3 = False
S4 = True
S5 = False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

Question 7

Not answered

Mark 0.00 out of 1.00

EN: Suppose n is an integer where $n = a + b + c + d$ with a, b, c, and d are positive integers.

Suppose we consider the following statements:

1. $S1$: $a \leq \frac{n}{4}$ or $b \leq \frac{n}{4}$ or $c \leq \frac{n}{4}$ or $d \leq \frac{n}{4}$.
2. $S2$: $a \leq \frac{n}{4}$ and $b \leq \frac{n}{4}$ and $c \leq \frac{n}{4}$ and $d \leq \frac{n}{4}$.
3. $S3$: $a \leq \frac{n}{2}$ or $b \leq \frac{n}{2}$ or $c \leq \frac{n}{2}$ or $d \leq \frac{n}{2}$.
4. $S4$: $a \leq \frac{n}{2}$ and $b \leq \frac{n}{2}$ and $c \leq \frac{n}{2}$ and $d \leq \frac{n}{2}$.
5. $S5$: $a \leq n$ and $b \leq n$ and $c \leq n$ and $d \leq n$.

Choose all statements that are true based on the previous assumption. Write your answer in the following Python format:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

For example, if you think that $S1$, $S2$, and $S3$ are the correct choices while $S4$ and $S5$ are incorrect, then you need to write

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

ID: Misalkan n adalah bilangan bulat dengan $n = a + b + c + d$ serta a, b, c, dan d adalah bilangan bulat positif.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1. $S1$: $a \leq \frac{n}{4}$ or $b \leq \frac{n}{4}$ or $c \leq \frac{n}{4}$ or $d \leq \frac{n}{4}$.
2. $S2$: $a \leq \frac{n}{4}$ and $b \leq \frac{n}{4}$ and $c \leq \frac{n}{4}$ and $d \leq \frac{n}{4}$.
3. $S3$: $a \leq \frac{n}{2}$ or $b \leq \frac{n}{2}$ or $c \leq \frac{n}{2}$ or $d \leq \frac{n}{2}$.
4. $S4$: $a \leq \frac{n}{2}$ and $b \leq \frac{n}{2}$ and $c \leq \frac{n}{2}$ and $d \leq \frac{n}{2}$.
5. $S5$: $a \leq n$ and $b \leq n$ and $c \leq n$ and $d \leq n$.

Piihlah semua pernyataan yang benar berdasarkan asumsi sebelumnya. Tuliskan jawaban Anda dalam format Python berikut:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

Sebagai contoh, jika Anda berpikir bahwa $S1$, $S2$, dan $S3$ adalah jawaban yang benar sedangkan $S4$ dan $S5$ salah, maka Anda perlu menulis

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
S1 = True/False
S2 = True/False
S3 = True/False
S4 = True/False
S5 = True/False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

▾ Show/hide question author's solution (Python3)

```
S1 = True
S2 = False
S3 = True
S4 = False
S5 = True

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

Question 8

Not answered

Mark 0.00 out of 1.00

EN: An integer m is divisible by an integer d if there is an integer k such that $m = k \cdot d$. Suppose $n = a \cdot b \cdot c$ and n is divisible by 2.

Suppose we consider the following statements:

1. $S1$: a, b, and c are always divisible by 2.
2. $S2$: at least one of a, b, and c is not divisible by 2.
3. $S3$: at least two of a, b, and c are not divisible by 2.
4. $S4$: at least one of a, b, and c is divisible by 2.
5. $S5$: at least two of a, b, and c are divisible by 2.

Choose all statements that are true based on the previous assumption. Write your answer in the following Python format:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

For example, if you think that $S1$, $S2$, and $S3$ are the correct choices while $S4$ and $S5$ are incorrect, then you need to write

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

ID: Sebuah bilangan bulat m habis dibagi d jika terdapat bilangan bulat k sehingga $m = k \cdot d$. Misalkan $n = a \cdot b \cdot c$ dan n habis dibagi 2.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1. $S1$: a, b, dan c semuanya selalu habis dibagi 2.
2. $S2$: setidaknya satu dari a, b, dan c tidak habis dibagi 2.
3. $S3$: setidaknya dua dari a, b, dan c tidak habis dibagi 2.
4. $S4$: setidaknya satu dari a, b, dan c habis dibagi 2.
5. $S5$: setidaknya dua dari a, b, dan c habis dibagi 2.

Piihlah semua pernyataan yang benar berdasarkan asumsi sebelumnya. Tuliskan jawaban Anda dalam format Python berikut:

S1 = <True/False>

S2 = <True/False>

S3 = <True/False>

S4 = <True/False>

S5 = <True/False>

Sebagai contoh, jika Anda berpikir bahwa $S1$, $S2$, dan $S3$ adalah jawaban yang benar sedangkan $S4$ dan $S5$ salah, maka Anda perlu menulis

S1 = True

S2 = True

S3 = True

S4 = False

S5 = False

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
S1 = True/False
S2 = True/False
S3 = True/False
S4 = True/False
S5 = True/False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

▾ Show/hide question author's solution (Python3)

```
S1 = False
S2 = False
S3 = False
S4 = True
S5 = False

# assign either True or False for each statement, True and False start with uppercase letter
# berikan nilai True atau False untuk masing-masing statement, True dan False dimulai dengan huruf kapital
```

Question 9

Not answered

Marked out of 1.00

EN: In a jar, there are 81 candies as follows:

- 3 chocolate candies,
- 17 strawberry candies,
- 9 vanilla candies,
- 13 coffee candies.
- 15 mint cadies,
- 5 milk candies,
- 19 orange candies,

All candies have **the same and identical wrappers**. You are asked to **take a number of candies so that you get at least four flavors and each flavor is represented by at least two candies**. For example, you get two chocolate candies, two strawberry candies, two vanilla candies, and two coffee candies; or two mint candies, two milk candies, two orange candies, and two coffee candies. What is the minimum number of candies should you take if the candies are taken **randomly**? (You must ensure that you get at least four different flavors and each flavor is represented by at least two candies.)

ID: Di sebuah toples terdapat 81 permen dengan rincian:

- 3 permen cokelat,
- 17 permen stroberi,
- 9 permen vanila,
- 13 permen kopi,
- 15 permen mint,
- 5 permen susu,
- 19 permen jeruk,

Semua permen memiliki **bungkus yang sama dan identik**. Anda diminta untuk **mengambil sejumlah permen dengan syarat Anda memperoleh setidaknya empat rasa dan setiap rasa diwakili oleh setidaknya dua permen**. Sebagai contoh, Anda memperoleh dua permen cokelat, dua permen stroberi, dua permen vanila, dan dua permen kopi; atau dua permen mint, dua permen susu, dua permen jeruk, dan dua permen kopi. Paling sedikit, berapa banyak permen yang harus Anda ambil jika pengambilan dilakukan secara **acak**? (Anda harus memastikan bahwa Anda memperoleh setidaknya empat rasa permen yang berbeda dan setiap rasa diwakili oleh dua permen.)

Answer:

The correct answer is: 53

Question 10

Not answered

Marked out of 1.00

EN: In a jar, there are 93 candies as follows:

- 5 chocolate candies,
- 9 strawberry candies,
- 19 vanilla candies,
- 13 coffee candies.
- 8 mint cadies,
- 11 milk candies,
- 21 orange candies,
- 7 banana candies,

All candies have **the same and identical wrappers**. You are asked to **take a number of candies so that at least you get four different flavors** (for example, you get one chocolate candy, one strawberry candy, one vanilla candy, and one coffee candy; or one chocolate candy, one vanilla candy, one mint candy, and one milk candy; or one strawberry candy, one coffee candy, one orange candy, and one mint candy). What is the minimum number of candies should you take if the candies are taken **randomly**? (You must ensure that you get four different flavors.)

ID: Di sebuah toples terdapat 93 permen dengan rincian:

- 5 permen cokelat,
- 9 permen stroberi,
- 19 permen vanila,
- 13 permen kopi,
- 8 permen mint,
- 11 permen susu,
- 21 permen jeruk,
- 7 permen pisang.

Semua permen memiliki **bungkus yang sama dan identik**. Anda diminta untuk **mengambil sejumlah permen dengan syarat Anda memperoleh setidaknya empat rasa berbeda** (misalnya Anda memperoleh satu permen cokelat, satu permen stroberi, satu permen vanila, dan satu permen kopi; atau satu permen cokelat, satu permen vanila, satu permen mint, dan satu permen susu; atau satu permen stroberi, satu permen kopi, satu permen jeruk, dan satu permen mint). Paling sedikit, berapa banyak permen yang harus Anda ambil jika pengambilan dilakukan secara **acak**? (Anda harus memastikan bahwa Anda memperoleh empat rasa permen yang berbeda.)

Answer:

The correct answer is: 54

Question 11

Not answered

Marked out of 1.00

EN: Find the result of $2 + 10 + 18 + 26 + \cdots + 999\,999\,986 + 999\,999\,994 + 1\,000\,000\,002$. You may use a Python interpreter or the formula of arithmetic or geometric series you learn in high school. (Hint: use Python interpreter or MS Excel to ease your calculation. The answer is an integer consisting of 17 digits.)

Note: do not use periods, commas, or spaces as digit separators. For example, if your answer is $123\,456\,789\,987\,654\,321$ then write 123456789987654321.

ID: Carilah nilai dari $2 + 10 + 18 + 26 + \cdots + 999\,999\,986 + 999\,999\,994 + 1\,000\,000\,002$. Anda dapat memakai interpreter Python atau formula untuk deret aritmetika atau geometri yang Anda pelajari di sekolah menengah. (Petunjuk: gunakan interpreter Python atau MS Excel untuk mempermudah kalkulasi Anda. Jawaban adalah bilangan bulat yang terdiri dari 17 digit.)

Catatan: jangan menggunakan titik, koma, atau spasi untuk pemisah digit. Sebagai contoh, jika jawaban Anda adalah $123\,456\,789\,987\,654\,321$ maka tulis 123456789987654321.

Answer:

The correct answer is: 62500000750000000

Question 12

Not answered

Marked out of 1.00

EN: Find the result of $6 + 14 + 22 + 30 + \cdots + 800\,000\,686 + 800\,000\,694 + 800\,000\,702$. You may use a Python interpreter or the formula of arithmetic or geometric series you learn in high school. (Hint: use Python interpreter or MS Excel to ease your calculation. The answer is an integer consisting of 17 digits.)

Note: do not use periods, commas, or spaces as digit separators. For example, if your answer is $123\,456\,789\,987\,654\,321$ then write 123456789987654321.

ID: Carilah nilai dari $6 + 14 + 22 + 30 + \cdots + 800\,000\,686 + 800\,000\,694 + 800\,000\,702$. Anda dapat memakai interpreter Python atau formula untuk deret aritmetika atau geometri yang Anda pelajari di sekolah menengah. (Petunjuk: gunakan interpreter Python atau MS Excel untuk mempermudah kalkulasi Anda. Jawaban adalah bilangan bulat yang terdiri dari 17 digit.)

Catatan: jangan menggunakan titik, koma, atau spasi untuk pemisah digit. Sebagai contoh, jika jawaban Anda adalah $123\,456\,789\,987\,654\,321$ maka tulis 123456789987654321.

Answer:

The correct answer is: 40000070600031152

Question 13

Not answered

Marked out of 1.00

EN: A sequence c_n is defined recursively as follows:
$c_0 = 1, c_1 = 2$, and $c_n = 2 \cdot c_{n-1} + 3 \cdot c_{n-2}$ for each integer $n \geq 2$.

What is the value of c_4?

IN: Sebuah barisan c_n didefinisikan secara rekursif sebagai berikut:

$c_0 = 1, c_1 = 2$, dan $c_n = 2 \cdot c_{n-1} + 3 \cdot c_{n-2}$ untuk setiap bilangan bulat $n \geq 2$.

Berapakah nilai dari c_4?

Answer:

The correct answer is: 61

Question 14

Not answered

Marked out of 1.00

EN: A sequence t_n is defined recursively as follows:
$t_1 = 6, t_2 = 11$, and $t_n = t_{n-1} + 2 \cdot t_{n-2} \quad \text{for} \quad n \geq 3$.

What is the value of t_5?

ID: Sebuah barisan t_n didefinisikan secara rekursif sebagai berikut:

$t_1 = 6, t_2 = 11$, dan $t_n = t_{n-1} + 2 \cdot t_{n-2} \quad \text{untuk} \quad n \geq 3$.

Berapakah nilai dari t_5?

Answer:

The correct answer is: 91

Question 15

Not answered

Mark 0.00 out of 1.00

EN: Construct a Python 3 function **sum(n)** that takes a positive integer n as an input and performs the following computation:

$$sum(n) = x(n) - y(n), \text{ where}$$
$$x(n) = 6 + 10 + 14 + \cdots + (4n - 2) + (4n + 2)$$
$$y(n) = 6 + 9 + 12 + \cdots + (3n) + (3n + 3),$$

for example:

1. $sum(1) = x(1) - y(1) = 6 - 6 = 0,$
2. $sum(2) = x(2) - y(2) = (6 + 10) - (6 + 9) = 1,$
3. $sum(3) = x(3) - y(3) = (6 + 10 + 14) - (6 + 9 + 12) = 3.$

The value of n is between 1 and 10^{12}. The time limit for the computation is 1 second per test case. The memory limit for the computation is 16 MB. To make your code efficient, derive an explicit formula (closed form) of $sum(n)$ using your knowledge learned in high school. You may further justify the correctness of your formula using induction.

Python hint: if a, b, and c are integers and c divides ab, then the integer expression $(ab)/2$ is represented as $(a * b)//2$. The integer expression a^b is written as $a * *b$.

ID: Buatlah sebuah fungsi Python 3 **sum(n)** yang mengambil bilangan bulat positif n sebagai masukan dan melakukan komputasi berikut:

$$sum(n) = x(n) - y(n), \text{ where}$$
$$x(n) = 6 + 10 + 14 + \cdots + (4n - 2) + (4n + 2)$$
$$y(n) = 6 + 9 + 12 + \cdots + (3n) + (3n + 3),$$

Sebagai contoh:

1. $sum(1) = x(1) - y(1) = 6 - 6 = 0,$
2. $sum(2) = x(2) - y(2) = (6 + 10) - (6 + 9) = 1,$
3. $sum(3) = x(3) - y(3) = (6 + 10 + 14) - (6 + 9 + 12) = 3.$

Nilai dari n antara 1 dan 10^{12}. Batas waktu komputasi adalah 1 detik per kasus uji. Batas memori adalah 16 MB. Untuk membuat kode program Anda efisien, buatlah formula (bentuk tertutup) dari $sum(n)$ menggunakan pengetahuan Anda yang dipelajari di SMA. Anda dapat membuktikan kebenaran dari formula yang diperoleh menggunakan induksi.

Petunjuk Python: jika a, b, dan c adalah bilangan bulat dan c membagi ab, maka ekspresi $(ab)/2$ direpresentasikan sebagai $(a * b)//2$. Ekspresi bilangan bulat a^b ditulis sebagai $a * *b$.

For example:

Test	Input	Result
`print(sum(1))`	`print(sum(1))`	`0`
`print(sum(2))`	`print(sum(2))`	`1`
`print(sum(3))`	`print(sum(3))`	`3`
`print(sum(4))`	`print(sum(4))`	`6`
`print(sum(100))`	`print(sum(100))`	`4950`

Answer: (penalty regime: 20,40, ... %)

Reset answer

```
def sum(n):
    # fix the following code
    if n == 1: return (5 - 5)
    elif n == 2: return (5 + 9) - (5 + 8)
    elif n == 3: return (5 + 9 + 13) - (5 + 8 + 11)
    else: return 0 # you may fix this line
```

▾ **Show/hide question author's solution (Python3)**

```python
def sum(n):
    # fix the following code
    if n == 1: return (6 - 6)
    elif n == 2: return (6 + 10) - (6 + 9)
    elif n == 3: return (6 + 10 + 14) - (6 + 9 + 12)
    else: return (n*(n-1))//2 # you may fix this line
```