

<b>Started on</b>	Friday, 10 January 2025, 1:04 AM
<b>State</b>	Finished
<b>Completed on</b>	Friday, 10 January 2025, 1:05 AM
<b>Time taken</b>	1 min 4 secs
<b>Marks</b>	0.00/15.00
<b>Grade</b>	0.00 out of 108.00 (0%)

**Question 1**

Incorrect

Mark 0.00 out of 1.00

**EN:** Find (if any) three prime numbers  $x$ ,  $y$ , and  $z$  such that  $xyz = 4521$ . 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  $xyz = 4521$ . Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

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

[Reset answer](#)

```

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

```

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  $x < y < z$  such that  $xyz = 5885$ . If such prime numbers do not exist write "**None**" without quotation marks.

**ID:** Carilah (jika ada) tiga bilangan prima  $x < y < z$  yang memenuhi  $xyz = 5885$ . Jika bilangan-bilangan yang dimaksud tidak ada tuliskan "**None**" tanpa tanda kutip.

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

[Reset answer](#)

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

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

```
1 | ^
2 | y = 11
3 | z = 107
4 |
5 | # erase ... and put a number or type "None" without quotation marks
6 | # 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 positive integers  $x$ ,  $y$ , and  $z$  such that  $x^2 + y^2 = 16z - 6$  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 positif  $x$ ,  $y$ , dan  $z$  yang memenuhi  $x^2 + y^2 = 16z - 6$  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](#)

$y = \dots$

$z = \dots$

# 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)**

```
1 x = None
2 y = None
3 z = None
4
5 # erase ... and put a number or type "None" without quotation marks
6 # 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  $xy = xz$  but  $y \neq z$ . If such integers do not exist write "**None**" without quotation marks.

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

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

[Reset answer](#)

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

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

```
1 | x = 0
2 | y = -100
3 | z = 100
4 |
5 | # erase ... and put a number or type "None" without quotation marks
6 | # 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 5 and  $b$  is divisible by 9.

Suppose we consider the following statements:

1.  $S1$ :  $a + b$  is always divisible by 14.
2.  $S2$ :  $ab$  is always divisible by 45.
3.  $S3$ :  $2a + b$  is always odd.
4.  $S4$ :  $a(b + 1)$  is always divisible by 5.
5.  $S5$ :  $a - 5b$  is always divisible by 40.

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 5 dan  $b$  habis dibagi 9.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1.  $S1$ :  $a + b$  selalu habis dibagi 14.
2.  $S2$ :  $ab$  selalu habis dibagi 45.
3.  $S3$ :  $2a + b$  selalu ganjil.
4.  $S4$ :  $a(b + 1)$  selalu habis dibagi 5.
5.  $S5$ :  $a - 5b$  selalu habis dibagi 40.

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](#)

```
1 S1 = True/False
2 S2 = True/False
3 S3 = True/False
4 S4 = True/False
5 S5 = True/False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # berikan nilai True atau False untuk masing-masing statement. True dan False dimulai dengan huruf kapital
```

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

```
1 S1 = False
2 S2 = True
3 S3 = False
4 S4 = True
5 S5 = False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # 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 4 and  $b$  is divisible by 13.

Suppose we consider the following statements:

1.  $S1$ :  $a + b$  is always divisible by 17.
2.  $S2$ :  $ab$  is always divisible by 26.
3.  $S3$ :  $2a + b$  is always odd .
4.  $S4$ :  $a(b + 1)$  is always even.
5.  $S5$ :  $5a - 4b$  is always divisible by 32.

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 4 dan  $b$  habis dibagi 13.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1.  $S1$ :  $a + b$  selalu habis dibagi 17.
2.  $S2$ :  $ab$  selalu habis dibagi 26.
3.  $S3$ :  $2a + b$  selalu ganjil.
4.  $S4$ :  $a(b + 1)$  selalu genap.
5.  $S5$ :  $5a - 4b$  selalu habis dibagi 32.

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](#)

```
1 S1 = True/False
2 S2 = True/False
3 S3 = True/False
4 S4 = True/False
5 S5 = True/False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # berikan nilai True atau False untuk masing-masing statement. True dan False dimulai dengan huruf kapital
```

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

```
1 S1 = False
2 S2 = True
3 S3 = False
4 S4 = True
5 S5 = False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # 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:** 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 3.

Suppose we consider the following statements:

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

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 3.

Misalkan kita meninjau pernyataan-pernyataan berikut:

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

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](#)

```
1 S1 = True/False
2 S2 = True/False
3 S3 = True/False
4 S4 = True/False
5 S5 = True/False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # berikan nilai True atau False untuk masing-masing statement. True dan False dimulai dengan huruf kapital
```

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

```
1 S1 = False
2 S2 = False
3 S3 = False
4 S4 = True
5 S5 = False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # 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  $m = k \cdot d$ . An integer is even if it is divisible by 2. An integer is odd if it is not even. Suppose  $n = a + b + c$  and  $n$  is odd.

Suppose we consider the following statements:

1.  $S1$ :  $a$ ,  $b$ , and  $c$  are always odd.
2.  $S2$ : at least one of  $a$ ,  $b$  and  $c$  is odd.
3.  $S3$ :  $a$  is odd,  $b$  and  $c$  are even.
4.  $S4$ : at least one of  $a$ ,  $b$  and  $c$  is even.
5.  $S5$ :  $a$  is even,  $b$  and  $c$  are 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  $m = k \cdot d$ . Sebuah bilangan dikatakan genap bila habis dibagi 2. Sebuah bilangan dikatakan ganjil jika tidak genap. Misalkan  $n = a + b + c$  dan  $n$  ganjil.

Misalkan kita meninjau pernyataan-pernyataan berikut:

1.  $S1$ :  $a$ ,  $b$ , dan  $c$  selalu ganjil.
2.  $S2$ : setidaknya satu dari  $a$ ,  $b$ , dan  $c$  ganjil.
3.  $S3$ :  $a$  ganjil,  $b$ , dan  $c$  genap.
4.  $S4$ : setidaknya satu dari  $a$ ,  $b$ , dan  $c$  genap.
5.  $S5$ :  $a$  genap,  $b$  dan  $c$  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](#)

```
1 S1 = True/False
2 S2 = True/False
3 S3 = True/False
4 S4 = True/False
5 S5 = True/False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # berikan nilai True atau False untuk masing-masing statement. True dan False dimulai dengan huruf kapital
```

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

```
1 S1 = False
2 S2 = False
3 S3 = True
4 S4 = False
5 S5 = False
6
7 # assign either True or False for each statement, True and False start with uppercase letter
8 # 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 60 candies as follows:

- 4 chocolate candies,
- 1 strawberry candies,
- 2 vanilla candies,
- 13 coffee candies.
- 8 mint candies,
- 6 milk candies,
- 10 orange candies,
- 5 banana candies,
- 11 cinnamon 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 cinnamon 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 60 permen dengan rincian:

- 4 permen coklat,
- 1 permen stroberi,
- 2 permen vanila,
- 13 permen kopi,
- 8 permen mint,
- 6 permen susu,
- 10 permen jeruk,
- 5 permen pisang,
- 11 permen kayu manis.

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 coklat, satu permen stroberi, satu permen vanila, dan satu permen kopi; atau satu permen coklat, satu permen vanila, satu permen mint, dan satu permen susu; atau satu permen stroberi, satu permen kopi, satu permen jeruk, dan satu permen kayu manis). 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: 35

**Question 10**

Not answered

Marked out of 1.00

**EN:** In a jar, there are 97 candies as follows:

- 5 chocolate candies,
- 9 strawberry candies,
- 19 vanilla candies,
- 13 coffee candies.
- 8 mint candies,
- 15 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 five different flavors** (for example, you get one chocolate candy, one strawberry candy, one vanilla candy, one mint candy, and one coffee candy; or one chocolate candy, one vanilla candy, one mint candy, one banana candy and one milk candy; or one strawberry candy, one coffee candy, one orange candy, one banana 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 97 permen dengan rincian:

- 5 permen coklat,
- 9 permen stroberi,
- 19 permen vanila,
- 13 permen kopi,
- 8 permen mint,
- 15 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 lima rasa berbeda** (misalnya Anda memperoleh satu permen coklat, satu permen stroberi, satu permen vanila, satu permen mint dan satu permen kopi; atau satu permen coklat, satu permen vanila, satu permen mint, satu permen pisang dan satu permen susu; atau satu permen stroberi, satu permen kopi, satu permen jeruk, satu permen pisang 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: 69

**Question 11**

Not answered

Marked out of 1.00

**EN:** Find the result of  $2 + 7 + 12 + 17 + \dots + 999\,999\,992 + 999\,999\,997 + 1\,000\,000\,002$ . 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 18 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  $2 + 7 + 12 + 17 + \dots + 999\,999\,992 + 999\,999\,997 + 1\,000\,000\,002$ . 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 18 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: 100000000900000000

**Question 12**

Not answered

Marked out of 1.00

**EN:** Find the result of  $2 + 7 + 12 + 17 + \dots + 999\,999\,992 + 999\,999\,997 + 1\,000\,000\,002$ . 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 18 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  $2 + 7 + 12 + 17 + \dots + 999\,999\,992 + 999\,999\,997 + 1\,000\,000\,002$ . 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 18 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: 100000000900000000

**Question 13**

Not answered

Marked out of 1.00

**EN:** A row  $b_n$  is recursively defined as follows: $b_0 = 2, b_1 = 3$ , and  $b_n = b_{n-1} + b_{n-2}$  for each integer  $n \geq 2$ .What is the value of  $b_5$ ?**ID:** Sebuah barisan  $b_n$  didefinisikan secara rekursif sebagai berikut: $b_0 = 2, b_1 = 3$ , dan  $b_n = b_{n-1} + b_{n-2}$  untuk setiap bilangan bulat  $n \geq 2$ .Berapakah nilai dari  $b_5$ ?

Answer:



The correct answer is: 21

**Question 14**

Not answered

Marked out of 1.00

**EN:** A sequence  $a_n$  is defined recursively as follows: $a_0 = 1, a_1 = 2$ , and  $a_n = (n - 1) \cdot a_{n-1} + (n - 2) \cdot a_{n-2}$  for any integer  $n \geq 2$ .What is the value of  $a_4$ ?**ID:** Sebuah barisan  $a_n$  didefinisikan secara rekursif sebagai berikut: $a_0 = 1, a_1 = 2$ , dan  $a_n = (n - 1) \cdot a_{n-1} + (n - 2) \cdot a_{n-2}$  untuk setiap bilangan bulat  $n \geq 2$ .Berapakah nilai dari  $a_4$ ?

Answer:



The correct answer is: 22



**Question 15**

Not answered

Mark 0.00 out of 1.00

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

$$\text{sum\_sequence}(n) = 3 + 8 + 13 + \dots + (5n - 12) + (5n - 7) + (5n - 2)$$

The sequence is formed by the series  $5n - 2$  for  $n \geq 1$ . The value of  $n$  is between 1 and  $10^9$ . 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_sequence(n)` using your knowledge learned in high school. You may further justify the correctness of your formula using mathematical induction.

Python hint: If  $a$  and  $b$  are integers and  $a$  divides  $b$ , then the sum of an arithmetic sequence can be found using the formula  $(n/2) \times (\text{first\_term} + \text{last\_term})$ .

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

$$\text{sum\_sequence}(n) = 3 + 8 + 13 + \dots + (5n - 12) + (5n - 7) + (5n - 2)$$

Urutan tersebut dibentuk oleh seri  $5n - 2$  untuk  $n \geq 1$ . Nilai dari  $n$  adalah antara 1 dan  $10^9$ . Batas waktu komputasi adalah 1 detik per kasus uji. Batas memori adalah 16 MB. Untuk membuat kode program Anda efisien, buatlah formula tertutup (bentuk tertutup) dari `sum_sequence(n)` menggunakan pengetahuan Anda yang dipelajari di sekolah menengah. Anda dapat membenarkan kebenaran dari formula Anda menggunakan induksi matematika.

Petunjuk Python: Jika  $a$  dan  $b$  adalah bilangan bulat dan  $a$  membagi  $b$ , maka jumlah dari sebuah deret aritmatika dapat ditemukan menggunakan formula  $(n/2) \times (\text{suku\_pertama} + \text{suku\_terakhir})$ .

**For example:**

Test	Input	Result
<code>print(sum_sequence(1))</code>	<code>print(sum_sequence(1))</code>	3.0
<code>print(sum_sequence(2))</code>	<code>print(sum_sequence(2))</code>	11.0
<code>print(sum_sequence(3))</code>	<code>print(sum_sequence(3))</code>	24.0
<code>print(sum_sequence(4))</code>	<code>print(sum_sequence(4))</code>	42.0
<code>print(sum_sequence(5))</code>	<code>print(sum_sequence(5))</code>	65.0
<code>print(sum_sequence(6))</code>	<code>print(sum_sequence(6))</code>	93.0
<code>print(sum_sequence(7))</code>	<code>print(sum_sequence(7))</code>	126.0
<code>print(sum_sequence(8))</code>	<code>print(sum_sequence(8))</code>	164.0

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

Reset answer

```

1 def sum(n):
2     # fix the following code
3     if n == 1: return 2
4     elif n == 2: return 2 + 7
5     elif n == 3: return 2 + 7 + 12
6     else: return 0 # you may fix this line

```

## ▼ Show/hide question author's solution (Python3)

```
1 def sum_sequence(n):  
2     first_term = 3  
3     last_term = 5*n - 2  
4     return n/2 * (first_term + last_term)  
r
```

