

**MARTES, 26-05-20**

**BUENOS DÍAS, CHICOS...**

**¿CÓMO VAN LAS COSAS?**

**CON GANAS DE QUE ACABE TODO, ¿VERDAD?**

**NO CREÁIS QUE SOIS LOS ÚNICOS...**

**Y CUANDO DECIMOS QUE “TODO” ES, FUNDAMENTALMENTE, AQUELLO QUE NO NOS ESTÁ HACIENDO BIEN: EL AUMENTO DE INFECTADOS, EL NÚMERO DE MUERTOS, EL AGOTAMIENTO FÍSICO Y PSICOLÓGICO DE LOS SANITARIOS, LA GRAN CANTIDAD DE TRABAJADORES EN PARO, EL DESASTRE DE LA ECONOMÍA, EL FUTURO INCIERTO...**

**PUES A TODO ELLO HAY QUE PONERLE UN ESPÍRITU POSITIVO Y HAY QUE AYUDAR CON VUESTRO ESFUERZO Y TRABAJO DIARIO, HAY QUE ARRIMAR EL HOMBRO Y HAY QUE COLABORAR EN LO QUE VOSOTROS PODÉIS. ESO AYUDARÁ A VUESTRAS FAMILIAS A PONER UN POCO DE FELICIDAD EN VUESTRA CASA.**

**Y, COMO SOY UNA PESADA, INSISTO:**

- ACORDAOS DE MANDAR UNA FOTO VUESTRA (SOLOS O CON ALGÚN MIEMBRO DE VUESTRA FAMILIA), CON FLORES EN LA MANO, PARA HACER UNA OFRENDA A LA VIRGEN. EN ESTOS TIEMPOS, ELLA, MÁS QUE NUNCA, NOS ESCUCHARÁ, NOS AYUDARÁ Y NOS DARÁ FUERZAS PARA SEGUIR CON SALUD Y CON TRABAJO.**
  
- Y SEGUIRÉ RECORDÁNDOOS QUE TENÉIS YA, EN EDUCASTUR, TODA LA INFORMACIÓN QUE NECESITÁIS, PARA HACER LA INSCRIPCIÓN EN AQUEL CENTRO DONDE DESEÉIS CURSAR ESTUDIOS DE BACHILLER EL CURSO 2020-2021.**

**UN ABRAZO Y A SEGUIR TRABAJANDO...¡YA QUEDA POQUÍSIMO ESFUERZO!**

**VUESTRA TUTORA**

# 4º ESO MATEMÁTICAS (Académicas) 26/05/2020

Dudas, o cualquier necesidad que tengáis, si os puedo ayudar porfa, me lo consultáis por

Teams (preferente) o correo [jose.casielles@fefcoll.org](mailto:jose.casielles@fefcoll.org).

## TEMA3 : ECUACIONES

Ecuaciones logarítmicas y exponenciales

METODO DE GAUSS (Resolución de sistemas de ecuaciones)

4. Resuelve estas ecuaciones exponenciales, utilizando el cambio de variable adecuado.

- a)  $2^{2x} - 3 \cdot 2^x + 2 = 0$
- b)  $9^x - 28 \cdot 3^{x-1} + 3 = 0$
- c)  $2^{2x+1} - 7 \cdot 2^{x-1} = 1$

5. Halla el valor de un número sabiendo que el doble de su logaritmo neperiano es una unidad inferior al logaritmo neperiano de 4.

6. Resuelve el sistema  $\begin{cases} x - y = 21 \\ \log x + \log y = 2 \end{cases}$ .

**OS VOY A ENVIAR COMO RESOLVER ESTO CON MATRICES POR TEAMS. (OS AYUDARÁ PARA EL AÑO QUE VIENE)**

¿Cómo resolver sistemas de ecuaciones lineales con tres o más incógnitas? Un método que se utiliza con frecuencia es el método de Gauss. Basado en el método de reducción, consiste en ir eliminando incógnitas de forma que el sistema original se transforme en uno escalonado.

Ejemplo ► Resuelve el sistema  $\begin{cases} x + y + 2z = 8 \\ x - 2y + z = 7 \\ 5x - z = 1 \end{cases}$ .

1.º Se elimina la incógnita  $x$  de la segunda y tercera ecuación utilizando la primera.

$$\begin{cases} x + y + 2z = 8 \\ x - 2y + z = 7 \\ 5x - z = 1 \end{cases} \xrightarrow[E_2 \rightarrow E_2 - E_1]{E_3 \rightarrow E_3 - 5E_1} \begin{cases} x + y + 2z = 8 \\ -3y - z = -1 \\ -5y - 11z = -39 \end{cases}$$

2.º Utilizando las dos últimas ecuaciones, se eliminar otra de las incógnitas para obtener el sistema escalonado.

$$\begin{cases} x + y + 2z = 8 \\ -3y - z = -1 \\ -5y - 11z = -39 \end{cases} \xrightarrow[E_3 \rightarrow E_3 - 11E_2]{E_3 \rightarrow E_3 - 11E_2} \begin{cases} x + y + 2z = 8 \\ -3y - z = -1 \\ 28y = -28 \end{cases}$$

3.º A partir de ahí, se obtiene de manera ordenada la solución del sistema.

$$y = -1; z = 4; x = 1$$

Los sistemas con solución única se denominan sistemas **compatibles determinados**.

Si al resolver el sistema apareciera un ecuación del tipo  $0 = k$ , con  $k \neq 0$ , el sistema no tendría solución y se dice que es un **sistema incompatible**.

Si al resolver el sistema apareciera un ecuación del tipo  $0 = 0$ , el sistema tendrá infinitas soluciones y se dice que es un **sistema compatible indeterminado**.

1. En un hotel hay 156 camas repartidas en habitaciones individuales, dobles y triples. Sabiendo que hay el triple de habitaciones dobles que individuales y triples juntas y que hay cuatro habitaciones individuales más que triples, ¿cuántas habitaciones de cada tipo hay en el hotel?

2. ¿Cuánto tiene que valer  $k$  para que el sistema 
$$\begin{cases} x - y = k \\ x + kz = 0 \\ 2x - y + k^2z = 1 \end{cases}$$
 sea compatible indeterminado?

GOOD MORNING DEAR STUDENTS

Hoy comenzamos con la explicación del Reported Speech. Lo primero que hay que hacer es leer el workbook, página 102-103, para enteraros bien de la teoría. Además os voy a adjuntar otra explicación más completa que os servirá para años siguientes también. Para el jueves comenzaremos a ver el vocabulario de la unidad 5 que nos servirá para hacer los ejercicios del Reported Speech. Todas las dudas que os aparezcan me las preguntáis por Teams o por correo, vale? Un saludo de la teacher.

INGLÉS 26-05-20

LEER BIEN LA TEORÍA QUE OS DOY EN EL WORKBOOK Y LA QUE OS ADJUNTO A CONTINUACIÓN.

## Reported Speech

### Reported Statements

When do we use reported speech? Sometimes someone says a sentence, for example "I'm going to the cinema tonight". Later, maybe we want to tell someone else what the first person said. Here's how it works:

We use a reporting verb like 'say' or 'tell'. If this verb is in the present tense, it's easy. We just put 'she says' and then the sentence:

Direct speech:            I **like** ice cream.

Reported speech:        She says she **likes** ice cream.

We don't need to change the tense, though probably we do need to change the 'person' from 'I' to 'she', for example. We also may need to change words like 'my' and 'your'.

**On the other hand, if the reporting verb is in the past tense, then usually we change the tenses in the reported speech:**

Direct speech:            I **like** ice cream.

Reported speech:        She said she **liked** ice cream.

<b>Tense</b>	<b>Direct Speech</b>	<b>Reported Speech</b>
present simple	I like ice cream"	She said (that) she liked ice cream.
present continuous	I am living in London"	She said she was living in London.
past simple	I bought a car"	She said she had bought a car OR She said she bought a car.

past continuous	I was walking along the street”	She said she had been walking along the street.
present perfect	“I haven't seen Julie”	She said she hadn't seen Julie.
past perfect*	“I had taken English lessons before”	She said she had taken English lessons before.
will	“I'll see you later”	She said she would see me later.
would*	“I would help, but..”	She said she would help but...
can	“I can speak perfect English”	She said she could speak perfect English.
could*	“I could swim when I was four”	She said she could swim when she was four.
shall	“I shall come later”	She said she would come later.
should*	“I should call my mother”	She said she should call her mother
might*	"I might be late"	She said she might be late
must	"I must study at the weekend"	She said she must study at the weekend OR She said she had to study at the weekend

\* doesn't change.

Occasionally, we don't need to change the present tense into the past if the information in direct speech is still true (but this is only for things which are general facts, and even then usually we like to change the tense):

Direct speech:       The sky **is** blue.

Reported speech:     She said that the sky **is/was** blue.

### **Reported Questions**

So now you have no problem with making reported speech from positive and negative sentences. But how about questions?

Direct speech:       Where do you live?

How can we make the reported speech here? In fact, it's not so different from reported statements. The tense changes are the same, and we keep the question word. The very important thing though is that, once we tell the question to someone else, it isn't a question any more. So we need to change the grammar to a normal positive sentence.:

Reported speech:     She asked me where I lived.

Do you see how I made it? The direct question is in the present simple tense. We make a present simple question with 'do' or 'does' so I need to take that away. Then I need to change the verb to the past simple. Another example:

Direct speech:       Where is Julie?

Reported speech:     She asked me where Julie was.

The direct question is the present simple of 'be'. We make the question form of the present simple of be by inverting (changing the position of) the subject and verb. So, we need to change them back before putting the verb into the past simple. Here are some more examples:

#### **Direct Question**

“Where is the Post Office, please?”

“What are you doing?”

#### **Reported Question**

She asked me where the Post Office was.

She asked me what I was doing.

“Who was that fantastic man?” She asked me who that fantastic man had been.

So much for 'wh' questions. But, what if you need to report a 'yes / no' question? We don't have any question words to help us. Instead, we use 'if':

Direct speech: Do you like chocolate?

Reported speech: She asked me if I liked chocolate.

No problem? Here are a few more examples:

### **Direct Question**

### **Reported Question**

“Do you love me?”

He asked me if I loved him.

“Have you ever been to Mexico?”

She asked me if I had ever been to Mexico.

“Are you living here?”

She asked me if I was living here.

### **Reported Requests**

There's more! What if someone asks you to do something (in a polite way)? For example:

Direct speech: Close the window, please.

Or: Could you close the window please?

Or: Would you mind closing the window please?

All of these requests mean the same thing, so we don't need to report every word when we tell another person about it. We simply use 'ask me + to + infinitive':

Reported speech: She asked me to close the window.

Here are a few more examples:

### **Direct Request**

### **Reported Request**

“Please help me”.

She asked me to help her.

“Please don't smoke”.

She asked me not to smoke.

“Could you bring my book tonight?”

She asked me to bring her book that night.

“Could you pass the milk, please?”

She asked me to pass the milk.

“Would you mind coming early tomorrow?”

She asked me to come early the next day.



To report a negative request, use 'not':

Direct speech:        Please don't be late.

Reported speech:     She asked us not to be late.

### **Reported Orders**

And finally, how about if someone doesn't ask so politely? We can call this an 'order' in English, when someone tells you very directly to do something. For example:

Direct speech:        Sit down!

In fact, we make this into reported speech in the same way as a request. We just use 'tell' instead of 'ask':

Reported speech:     She told me to sit down.

### **Direct Order      Reported Order**

“Go to bed!”        He told the child to go to bed.

“Don't worry!”     He told her not to worry.

“Be on time!”       He told me to be on time.

“Don't smoke!”    He told us not to smoke.

### **Time Expressions with Reported Speech**

Sometimes when we change direct speech into reported speech we have to change time expressions too. We don't always have to do this, however. It depends on when we heard the direct speech and when we say the reported speech. For example:

It's Monday. Julie says "I'm leaving today".

If I tell someone on Monday, I say "Julie said she was leaving today".

If I tell someone on Tuesday, I say "Julie said she was leaving yesterday".

If I tell someone on Wednesday, I say "Julie said she was leaving on Monday".

If I tell someone a month later, I say "Julie said she was leaving that day".

So, there's no easy conversion. You really have to think about when the direct speech was said.

Here's a table of some possible conversions:

now	then / at that time
today	yesterday / that day / Tuesday / the 27th of June
yesterday	the day before yesterday / the day before / Wednesday / the 5th of December
last night	the night before, Thursday night
last week	the week before / the previous week
tomorrow	today / the next day / the following day / Friday