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Mathematics Test

Upper secondary level

Includes a self-report evaluation of students' self-confidence about their STEAM performance.



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ES01-KA220-SCH-000032742.

Name: _____

Date: _____

TOPIC 1: MATRICES

Product of matrices – Problem 1

Calculate A.B:

$$A = \begin{pmatrix} 4 & 2 \\ 5 & 6 \end{pmatrix}$$

$$B = \begin{pmatrix} 3 & 5 \\ 2 & 4 \end{pmatrix}$$

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1

Not very
sure

2

Not sure

3

Neither sure
or unsure

4

Sure

5

Very sure

Name: _____

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TOPIC 1: MATRICES

Inverse matrix – Problem 1

Find the inverse matrix of A, using the method of your choice.

$$A = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$$

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1	2	3	4	5
Not very sure	Not sure	Neither sure or unsure	Sure	Very sure

Name: _____

Date: _____

TOPIC 2: GEOMETRY IN SPACE

Vectors – Problem 1

Determine whether or not the following vectors are linearly dependent:

$$\vec{u} = (1,2,3); \vec{v} = (2,4,8); \vec{w} = (4,5,6)$$

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1	2	3	4	5
Not very sure	Not sure	Neither sure or unsure	Sure	Very sure

Name: _____

Date: _____

TOPIC 2: GEOMETRY IN SPACE

Middle point - Problem 1

Given the points $A = (8, -4, 3)$ and $B = (6, 4, -5)$, find the midpoint of segment AB

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1	2	3	4	5
Not very sure	Not sure	Neither sure or unsure	Sure	Very sure

Name: _____

Date: _____

TOPIC 3: PROBABILITY

Events – Problem 1

Florence Nightingale was a nurse and statistician who helped sick people at the Scutari field hospital during the Crimean War.

Many of the wounded arrived with different illnesses.

Assuming there were twenty different diseases, eight of which are fatal.

What are the possible events?

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1	2	3	4	5
Not very sure	Not sure	Neither sure or unsure	Sure	Very sure

Name: _____

Date: _____

TOPIC 3: PROBABILITY

Problem 2

In a clinic, there are three different waiting rooms.

If the first room is full, they open the second, and if the second is full they quickly open the third.

The probability that each of them is filled is $P(\text{room 1}) = 0.99$; $P(\text{room 2}) = 0.98$; $P(\text{room 3}) = 0.95$.

Find the probability that all three rooms are filled.

From 1 to 5, how sure are you of correctly solving the exercise? Circle the number of the option that suits you best.

1	2	3	4	5
Not very sure	Not sure	Neither sure or unsure	Sure	Very sure