姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} -1 & 2 & -2 \\ 0 & -2 & 1 \\ 1 & 1 & 1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & -2 & 1 \\ 1 & -1 & -1 \\ 3 & -4 & 0 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 1

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} -2 & -2 & -2 \\ 0 & -1 & 0 \\ 0 & 2 & -1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 2 & -1 \\ 1 & 3 & 0 \\ 2 & 4 & -1 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 2

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} -1 & 2 & 2 \\ -1 & 0 & 2 \\ 1 & 2 & -2 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 1 & 0 \\ -1 & 0 & 2 \\ -2 & -1 & 3 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 3

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} -1 & 0 & -2 \\ 1 & 1 & -1 \\ -2 & -2 & -2 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 2 & 0 \\ -1 & -1 & -2 \\ 0 & 2 & -3 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 4

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} 2 & 0 & 0 \\ 2 & -2 & 1 \\ -1 & -2 & -1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 0 & 1 \\ 1 & 1 & 0 \\ 0 & -2 & 3 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 5

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} 2 & -2 & 1 \\ 0 & -2 & -2 \\ -1 & 2 & 1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 0 & -2 \\ 1 & 1 & -2 \\ 0 & 1 & 1 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 6

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} 0 & -1 & 1 \\ -2 & -2 & 2 \\ -2 & 0 & 2 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 2 & -1 \\ -2 & -3 & 0 \\ -1 & -1 & 0 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 7

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} -1 & 0 & 1 \\ -1 & -1 & -2 \\ -2 & -1 & -1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 1 & -2 \\ 1 & 2 & -1 \\ 2 & 3 & -2 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 8

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} 1 & 2 & 0 \\ 0 & -1 & -1 \\ -2 & 0 & 2 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & 2 & -2 \\ 2 & 5 & -4 \\ -2 & -6 & 5 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 9

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code

姓名 Name : ____________________ 學號 Student ID # : ____________________

Quiz 2 MATH 104: Linear Algebra II

Let

$$A = \begin{bmatrix} 2 & -2 & 1 \\ 1 & 2 & -2 \\ -1 & 1 & 1 \end{bmatrix} \text{ and } B = \begin{bmatrix} 1 & -1 & -2 \\ 1 & 0 & 0 \\ -2 & 0 & 1 \end{bmatrix}.$$

Suppose $f : \mathbb{R}^3 \to \mathbb{R}^3$ is a homomorphism defined by $f(\mathbf{v}) = A\mathbf{v}$ for all $\mathbf{v} \in \mathbb{R}^3$ and $\mathcal{B}$ is a basis of $\mathbb{R}^3$ composed of the columns of B. Find $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$.

Check code = (sum of all entries of $\mathrm{Rep}_{\mathcal{B},\mathcal{B}}(f)$) mod 10

Solution.

MatRep 10

Indicating your answer by **underlining it** or **circling it**.
Compute the **check code** and fill it into the **box on the right**.

check code