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Evaluation Quiz Corrections - show | Kigali Intranet



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## QNT 101: Introduction to College Algebra ^

Average: 91.01%

# Evaluation quiz correction

## Evaluation Quiz: Week 12 Quiz

**Date:** 2025-01-27

**Status:** Done

**Duration:** 1 hour, 9 minutes

**Score:** 90.91%

# "I don't know": 0

# Success: 20

# Fail: 2

## Responses

0. If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 2 & 0 \\ 1 & 3 \end{bmatrix}$ , what is  $A \times B$ ?



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[ 10 12 ]

$\begin{bmatrix} 3 & 5 \\ 6 & 12 \end{bmatrix}$

$\begin{bmatrix} 4 & 6 \\ 10 & 14 \end{bmatrix}$

$\begin{bmatrix} 2 & 6 \\ 10 & 12 \end{bmatrix}$

I don't know

**1. Perform the operation on the matrices given below:**

Operation:  $-1\mathbf{A}$ , where  $\mathbf{A} = \begin{bmatrix} 5 & -4 \\ 2 & 8 \end{bmatrix}$

**Score:** 1.0

$\begin{bmatrix} 5 & 4 \\ 2 & -8 \end{bmatrix}$

$\begin{bmatrix} -5 & -4 \\ -2 & 8 \end{bmatrix}$

$\begin{bmatrix} 5 & -4 \\ 2 & 8 \end{bmatrix}$

$\begin{bmatrix} -5 & 4 \\ -2 & -8 \end{bmatrix}$



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**2. Decompose the following expression into partial fractions:**

$$\frac{2x^2+3x-9}{x^3-3x^2+3x-1}$$

**Score:** 1.0

- $\frac{2x+1}{x-1} + \frac{x-4}{(x-1)^2}$
- $\frac{2x-3}{x-1} + \frac{x+1}{(x-1)^2}$
- $\frac{2x-1}{x-1} + \frac{x+4}{(x-1)^2}$
- $\frac{1}{x-1} + \frac{x}{x^2+2}$
- I don't know

**3. Perform the operation on the matrices given below:**

Operation:  $2\mathbf{A}$ , where  $\mathbf{A} = \begin{bmatrix} -3 & 5 \\ 0 & -2 \end{bmatrix}$

**Score:** 1.0



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$$\begin{bmatrix} 0 & -2 \\ -6 & 10 \\ 0 & -4 \end{bmatrix}$$

$$\begin{bmatrix} -6 & 10 \\ 0 & -4 \end{bmatrix}$$

$$\begin{bmatrix} 6 & -10 \\ 0 & 4 \end{bmatrix}$$

 I don't know

4. Solve this system of equations:

$$3x - y + z = 1$$

$$x + 2y - 3z = -6$$

$$4x + y + z = 7$$

Score: 1.0

$$(x, y, z) = (1, -2, 3)$$

$$(x, y, z) = (0, 3, 4)$$

$$(x, y, z) = (0, 2, -3)$$

$$(x, y, z) = (0, 2, -1)$$

 I don't know



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**Score:** 0.0

- $\frac{1}{(x+1)^2} + \frac{2}{x-3}$
- $\frac{1}{x+1} + \frac{1}{(x+1)^2} + \frac{1}{x-3}$
- $\frac{1}{x+1} + \frac{2}{x-3} + \frac{2}{(x+1)^2}$
- $\frac{1}{x+1} + \frac{2}{x-3} + \frac{2}{(x+1)^2}$
- I don't know

**6. Decompose the following expression into partial fractions:**

$$\frac{5x-6}{x^3+2x^2-x-2}$$

**Score:** 1.0

- $\frac{2}{x+2} + \frac{3x-2}{x^2+1}$
- $\frac{1}{x+2} + \frac{2}{x-1} + \frac{2}{x+1}$



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$$\frac{x-1}{x-1} + \frac{1}{x^2+2x+2}$$

I don't know

## 7. Decompose the following expression into partial fractions:

$$\frac{x^2-1}{x^3+x^2-4x-4}$$

**Score:** 1.0

$\frac{1}{x+2} + \frac{x-1}{x^2-x-2}$

$\frac{1}{4(x-2)} + \frac{3}{4(x+2)}$

$\frac{1}{x+4} + \frac{x-3}{x^2+x-2}$

$\frac{2}{x-1} + \frac{x+2}{x^2+x+2}$

I don't know

## 8. Solve the following system of equations:



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**Score:** 1.0

- $(x, y) = (3, 2)$
- $(x, y) = (0, 5) \text{ AND } (5, 0)$
- $(x, y) = (3, 2) \text{ AND } (2, 3)$
- $(x, y) = (-5, 0)$
- I don't know

**9. Solve the following nonlinear system of equations:**

$$y = x^2 + 1$$

$$y = 2x^2 + 3$$

**Score:** 1.0

- No solutions**

- $(x, y) = (1, -1)$
- $(x, y) = (1, 4)$
- $(x, y) = (2, 3)$
- I don't know



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Score: 1.0

$\begin{bmatrix} 3 & -3 \\ 0 & -3 \end{bmatrix}$

$\begin{bmatrix} 3 & -3 \\ 0 & -4 \end{bmatrix}$

$\begin{bmatrix} 3 & -3 \\ 0 & -1 \end{bmatrix}$

$\begin{bmatrix} 3 & -3 \\ 2 & -3 \end{bmatrix}$

I don't know



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Score: 1.0

$\begin{bmatrix} -6 & 3 \\ -12 & 0 \end{bmatrix}$

$\begin{bmatrix} 6 & -3 \\ 12 & 0 \end{bmatrix}$

$\begin{bmatrix} -6 & 3 \\ 12 & 0 \end{bmatrix}$

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**11. Perform the operation on the matrices given below:**



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## 12. Solve the following system of equations:

$$x + 2y - z = 6$$

$$2x - 3y + 2z = -5$$

$$-x + y + 2z = 9$$

**Score:** 1.0

- $(x, y, z) = (1, -1, 2)$
- $(x, y, z) = (-1, 1, 2)$
- $(x, y, z) = \left( \frac{14}{12}, \frac{77}{12}, \frac{-54}{12} \right)$
- $(x, y, z) = \left( \frac{14}{12}, \frac{77}{12}, \frac{54}{12} \right)$
- I don't know

## 13. Perform the operation on the matrices given below:

Operation:  $\mathbf{A} - \mathbf{B}$ , where  $\mathbf{A} = \begin{bmatrix} 4 & -2 \\ 7 & 3 \end{bmatrix}$ ,  $\mathbf{B} = \begin{bmatrix} 1 & -1 \\ 5 & 4 \end{bmatrix}$

**Score:** 1.0



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$$\begin{bmatrix} 2 & -1 \end{bmatrix}$$

$$\begin{bmatrix} 3 & -3 \\ 2 & -1 \end{bmatrix}$$

 I don't know

**14. A local school science fair includes a fundraiser by selling tickets for special science demonstrations. They sell all 400 tickets, generating \$6,800. Tickets are priced at \$12 for kids, \$18 for parents, and \$22 for sponsors. Additionally, they sell twice as many parent tickets as sponsor tickets.**

**Find out how many of each type of ticket was sold.**

**k = Kids tickets**

**p = Parent tickets**

**s = Sponsor tickets**

**Score:** 0.0

**(k, p, s) = (340, 40, 20)**

**(k, p, s) = (30, 40, 20)**

**$(k, p, s) = \left( \frac{1,400}{11}, \frac{2,000}{11}, \frac{1,000}{11} \right)$**

**$(k, p, s) = \left( \frac{1,400}{12}, \frac{2,000}{1}, \frac{100}{1} \right)$**



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15. Solve the following system of non-linear equations:

$$x^2 + y^2 = 13$$

$$x^2 - y^2 = 5$$

**Score:** 1.0

- $(x, y) = (-1, 2), (1, -2), (1, 1), (3, -1)$
- $(x, y) = (4, 1)$
- $(x, y) = (-3, 2), (-3, -2), (3, 2), (3, -2)$
- $(x, y) = (-1, 2), (-2, -2), (3, 1), (3, -2)$
- I don't know

16. An art gallery hosts an opening night for a new exhibit and sells out all 300 tickets, collecting a total of \$4,500. Tickets are sold at three different price levels: \$10 for art students, \$20 for general admission, and \$25 for VIP guests, which includes a guided tour. The gallery noticed that the number of VIP tickets sold was twice the number of student tickets.

Determine how many tickets of each type were sold during the opening night.

Let  $x$  be art students

Let  $y$  be general admission

Let  $z$  be VIP guests

**Score:** 1.0



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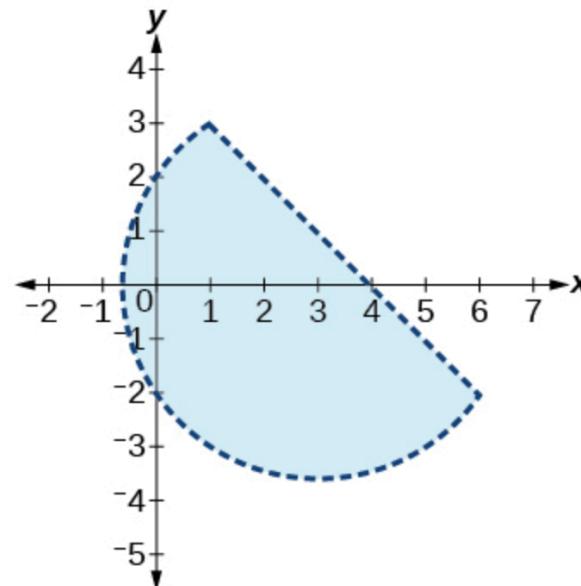
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$(x, y, z) = (60, 180, 60)$

I don't know

**17. Choose the system of inequalities displayed in the graph below:**



**Score:** 1.0

$x^2 - 2x - y^2 - 4x < 4$   
 $y < -x - 4$

$x^2 - 2x + y^2 - 4x < 4$   
 $y < -x + 4$



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$$y < -x - 4$$

I don't know

**18. Solve the following system of equations:**

$$4x - y = 1$$

$$y + 6x = 19$$

**Score:** 1.0

$(x, y) = (2, 7)$

$(x, y) = (3, -1)$

$(x, y) = (3, 1)$

$(x, y) = (2, -14)$

I don't know

**19. Perform the operation on the matrices given below:**

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**Score:** 1.0



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**20. Decompose the following expression into partial fractions:**

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**Score:** 1.0

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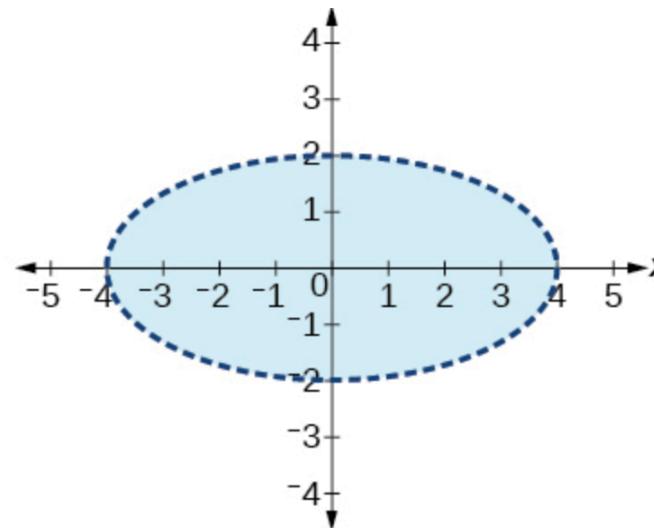
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**Score:** 1.0

- $\frac{1}{4}x^2 + y^2 \geq -4$
- $\frac{1}{4}x^{-2} + y^{-2} \leq 4$
- $\frac{1}{4}x^2 + y^2 \leq 4$
- $\frac{1}{2}x^2 - y^2 \leq 4$
- I don't know

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