

## Câu 1: Dùng phương pháp Euler cải tiến

The screenshot shows a web browser window with a quiz titled "GIẢI GẦN ĐÚNG PHƯƠNG TRÌNH VI PHÂN" (Approximate Solution of Differential Equations). The user is on "Question 1" and has a score of 2/14. The question asks to use the improved Euler's formula to approximate the values of  $y(x)$  at  $x = 0.68$  and  $x = 0.82$  with a step size  $h = 0.14$ . The differential equation is  $y' = 1.3x^2 + 3.6y^2 + e^{-x}$  with an initial condition  $y(0.54) = 0.25$ . The user has entered the answers  $y(0.68) = 0.4543$  and  $y(0.82) = 0.8041$ , both of which are marked as correct. The interface includes a "Submit Question" button and a "Next question" link. A large watermark "BACHKHOACNCP.COM" is visible across the center of the page.

Score: 2/14 1/5 answered

Question 1

Score on last try: 2 of 2 pts. See Details for more.

Next question Get a similar question

Given the differential equation

$$y' = 1.3x^2 + 3.6y^2 + e^{-x}$$

that satisfies the initial condition  $y(0.54) = 0.25$ . Use the modified Euler's formula to approximate the values of  $y(x)$  at  $x = 0.68$  and  $x = 0.82$  with the step size  $h = 0.14$ .

ANSWER:  $y(0.68) = 0.4543$  ✓

$y(0.82) = 0.8041$  ✓

Submit Question

## Câu 2: Dùng phương pháp Runge-Kutta

The screenshot shows a web browser window with a quiz titled "GIẢI GẦN ĐÚNG PHƯƠNG TRÌNH VI PHÂN" (Approximate Solution of Differential Equations). The user is on "Question 2" and has a score of 4/14. The question asks to use the Runge-Kutta formula to approximate  $y(0.71)$  with a step size  $h = 0.15$ . The differential equation is  $y' = \frac{1.8x^2 + 3.7y}{2.4x + 4.2y^2}$  with an initial condition  $y(0.56) = 0.35$ . The user has entered the answer  $y(0.71) = 0.5007$ , which is marked as correct. The interface includes a "Submit Question" button and a "Next question" link. A large watermark "BACHKHOACNCP.COM" is visible across the center of the page.

Score: 4/14 2/5 answered

Question 2

Score on last try: 2 of 2 pts. See Details for more.

Next question Get a similar question

Given the differential equation

$$y' = \frac{1.8x^2 + 3.7y}{2.4x + 4.2y^2}$$

that satisfies the initial condition  $y(0.56) = 0.35$ . Use the Runge-Kutta formula to approximate  $y(0.71)$  with the step size  $h = 0.15$ .

$y(0.71) = 0.5007$  ✓

Submit Question

### Câu 3: Dùng phương pháp sai phân hữu hạn

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Việtname (vi) Đỗ Vũ Việt Anh

Bài luyện tập Giải gần đúng PTVP

**GIẢI GẦN ĐÚNG PHƯƠNG TRÌNH VI PHÂN**

Score: 8/14 3/5 answered 37mins Progress saved Done 4/4 pts 2 19 Details

Question 3

Score on last try: 4 of 4 pts. See Details for more.

Next question Get a similar question

Given the boundary problem

$$y'' + (1.8x + 4.6)y' - 10.8x^2y = -9.6xe^{-x}$$
$$y(0.36) = 0.6, \quad y(0.87) = 1.05$$

in the interval  $[0.36, 0.87]$ . Use the Finite Difference Method to approximate  $y(x)$  in  $[0.36, 0.87]$  with the step size  $h = 0.17$ .

$y(0.53) = 0.8855$  ✓

$y(0.7) = 0.9819$  ✓

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### Câu 4: Dùng phương pháp Euler

My Bach Khoa x MT1009\_004011\_DH\_HK211: Bài x (5) LCHSV khoa Điện - Điện Tử x Meet - nkk-spw-tdu x gg dich - search results x +

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Bài luyện tập Giải gần đúng PTVP

Score on last try: 2 of 2 pts. See Details for more.

Next question Get a similar question

Given the differential equation

$$y' = \frac{1.8x^2 - 2.2y^2}{3.5x^2 + 4.8y^2} + 5.8e^{-x} \sin x$$

that satisfies the initial condition  $y(0.2) = 0.65$ . Use Euler's formula to approximate the values of  $y(x)$  at  $x = 1.04$  and  $x = 1.25$  with the step size  $h = 0.21$ .

ANSWER:  $y(1.04) = 1.6934$  ✓

$y(1.25) = 2.0124$  ✓

Submit Question

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Câu 5:

Ý 1. Dùng phương pháp sai phân hữu hạn

Ý 2. Đề kêu làm tròn **3 chữ số sau dấu phẩy thập phân**

$x_k$	0.1	0.27	0.44	0.61
$y_k$	0.5	0.848	1.028	1.1

Dùng Lagrange, Newton tiến hay Newton lùi đều được.

The screenshot shows a web browser window with a URL: `e-learning.hcmut.edu.vn/mod/lti/view.php?id=707529`. The page displays a math problem in Vietnamese. The problem involves a second-order linear differential equation:  $y'' + (1.5 \cdot x + 2.1) \cdot y' - 8.8 \cdot x^2 \cdot y = -12.1 \cdot x \cdot e^{-x}$ , with boundary conditions  $y(0.1) = 0.5$  and  $y(0.61) = 1.1$ . The problem asks to use the finite difference method to approximate  $y(x)$  on the interval  $[0.1, 0.61]$  with a step size  $h = 0.17$ . The results are rounded to 3 decimal places and filled in the following table:

$x_k$	0.1	0.27	0.44	0.61
$y_k$	0.5	---	---	1.1

Use Newton's interpolation polynomial to approximate the values of the function  $y(x)$  and its derivative  $y'(x)$  at  $x = 0.132$ .

Answer:  $y(0.132) \approx 0.5813$  (correct),  $y'(0.132) \approx 2.4168$  (incorrect). The correct answer for the derivative is  $2.4126$ .

Còn đáp án này là 4 chữ số thập phân

Submit Question

slide bai62 heptvp

Chuyển tới...

Đáp án khi làm tròn 3 chữ số thập phân:

$$y(0.132) = 0.5811$$

$$y'(0.132) = 2.4126$$