

اختبر نفسك (7) Check yourself (7)

Mathematics الرياضيات

Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة

الصف الحادي عشر متقدم

T1 الفصل الأول

2026-2027

مراجعة الدرس الثالث

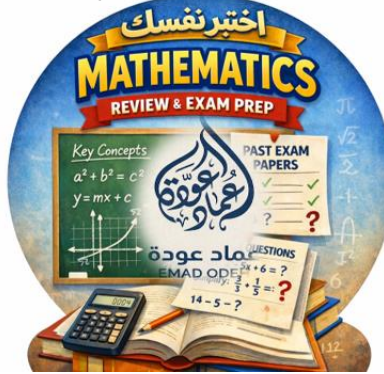
Lesson 6-4

Natural Logarithms

Module 6 (Logarithmic Functions)

According to the previous exam

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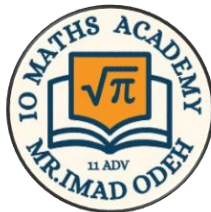


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Q1 Which of the following is the correct logarithmic form of the exponential equation

$$e^{-5x} = 0.2$$

- A) $\ln(-5x) = 0.2$
 B) $\ln(0.2) = -5x$
 C) $\log(0.2) = -5x$
 D) $e^{\ln(0.2)} = -5x$

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Q2 Which of the following is the correct logarithmic form of the exponential equation

$$e^4 = x - 3$$

- A) $\ln(x - 3) = 4$
 B) $\ln(4) = x - 3$
 C) $\log_{10}(4) = x - 3$
 D) $\ln(x) - 3 = 4$

Q3 Which of the following is the correct exponential form of the logarithmic equation

$$\ln(36) = 2x$$

- A) $e^{36} = 2x$
 B) $e^{2x} = 36$
 C) $10^{2x} = 36$
 D) $(2x)^e = 36$

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Q4 What is the equivalent exponential form of the logarithmic equation

$$\ln(4x) = 9.6$$

- A) $e^{9.6} = 4x$
 B) $e^{4x} = 9.6$
 C) $10^{9.6} = 4x$
 D) $9.6^e = 4x$

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Q5 Evaluate the expression

$$3 \ln e^5$$

A) $\frac{1}{15}$

B) 15

C) $\frac{5}{3}$

D) $\frac{3}{5}$ Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة

Q6 Which of the following is equivalent written as a single logarithm to

$$3 \ln 3 - \ln 9$$

A) $\ln 3$

B) $\ln 1$

C) $\ln 27$

D) $\ln 6$

Q7 What is the expression written as a single logarithm to

$$2 \ln x + 2 \ln 4$$

A) $\ln(8x)$

B) $\ln(16x^2)$

C) $\ln(4x^2)$

D) $\ln(x^2 + 16)$ Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة Imad Odeh عماد عودة

Q8 Which single logarithm is equivalent to

$$8 \ln 81 - 10 \ln 27$$

A) $\ln 3$

B) $\ln 9$

C) $\ln \frac{1}{3}$

D) $-2 \ln 54$

Q9 Which single logarithm is equivalent to

$$\ln 125 - 2 \ln 5$$

- A) $\ln 25$
 B) $\ln 115$
 C) $\ln 5$
 D) $\ln 1$

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Q10 Simplify expression

$$3 \ln e^4 - 2 \ln e^2$$

- A) $\ln e^2$
 B) $\ln e^4$
 C) 8
 D) 6

Q11 Evaluate the expression

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$$34 \ln e^{0.5} - 4 \ln e^5$$

- A) 37
 B) -340
 C) 150
 D) -3

Q12 Write the expression as a single logarithm.

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$$\frac{2}{3} \ln y + \ln 3$$

- A) $\ln 3 \sqrt[3]{y^2}$
 B) $\ln 3 \sqrt[2]{y^2}$
 C) $\ln y^2 \sqrt[3]{2}$
 D) $\ln 2y \sqrt[3]{3}$

Q13 what is the solution to the equation? (Round to the nearest ten-thousandth)

$$2e^x - 1 = 11$$

- A) $x \approx 1.7918$
 B) $x \approx 2.4849$
 C) $x \approx 1.0986$
 D) $x \approx 0.6931$

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Q14 Solve the equation. Round your answer to the nearest ten-thousandth.

$$e^{3x} = 30$$

- A) $x \approx 3.4012$
 B) $x \approx 1.1337$
 C) $x \approx 10.0000$
 D) $x \approx 0.7675$

Q15 What is the value of x for the equation? (Round to the nearest ten-thousandth)

$$4 + e^x = 19$$

- A) $x \approx 2.9444$
 B) $x \approx 2.7081$
 C) $x \approx 1.3863$
 D) $x \approx 2.2513$

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Q16 Solve the logarithmic equation

$$\ln x + \ln(x - 4) = \ln 12$$

- A) $x = -2, x = 6$
 B) $x = -6$
 C) $x = 6$
 D) $x = \ln 6, x = \ln(-2)$

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Q17 What is the solution to the equation (Round to the nearest ten-thousandth)

$$\ln(x - 6) = 1$$

- A) $x \approx 8.7183$
 B) $x \approx 7.0000$
 C) $x \approx 2.7183$
 D) $x \approx 3.2817$

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Q18 Solve the equation. Round your answer to the nearest ten-thousandth.

$$\ln(x + 2) = 3$$

- A) $x \approx 22.0855$
 B) $x \approx 18.0855$
 C) $x \approx 1.0986$
 D) $x \approx 20.0855$

Q19 What is the value of x for the equation (Round to the nearest ten-thousandth)

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$$\ln(3x) = 2$$

- A) $x \approx 2.4630$
 B) $x \approx 7.3891$
 C) $x \approx 0.2310$
 D) $x \approx 1.8480$

Q20 Determine the vertical asymptote of the function

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$$y = \ln\left(x + \frac{1}{5}\right) - 3$$

- A) $x = \frac{1}{5}$
 B) $x = -3$
 C) $x = \frac{1}{5}$
 D) $x = 3$

Q21

Cho started a savings account with \$2800. The account pays 3.8% compounded continuously. Cho wanted to withdraw the money after 5 years, but her friend says she should wait to withdraw it after 10 years.

Use the continuously compounded interest formula, $A = Pe^{rt}$, to determine how much more money will be in the savings account if Cho waits 10 years instead of 5 years to withdraw the money? Round to the nearest cent.

A) \$691.66

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B) \$708.50

C) \$3385.90

D) \$4094.40

FRQ

Q1 Solve the inequality. Round to the nearest ten-thousandth.

$$\ln(2x + 5)^3 < 6$$

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Q2 Solve the logarithmic equation

$$\ln(x + 6) = 4$$

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Q3 Solve the logarithmic equation

$$\ln x + \ln (x + 2) = \ln 63$$

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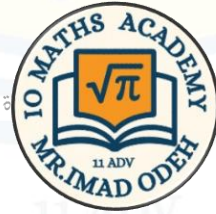
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