

Discrete Mathematics (1) - All sections

Question 1

Answer saved
Marked out of 3.00
Flag question

Let p : I will pay my taxes

q : paying my taxes

r : I will go to jail.

Express the following statement using symbols

"I will pay my taxes only if me paying my taxes is necessary for me not going to jail"

Select one:

- ☐ a. $p \rightarrow (\neg q \rightarrow r)$
- ☒ b. $p \rightarrow (\neg r \rightarrow q)$
- ☐ c. $\neg p \rightarrow (\neg q \rightarrow \neg r)$
- ☐ d. $(p \rightarrow \neg q) \rightarrow \neg r$

[Clear my choice](#)

Quiz navigation



[Finish attempt ...](#)

Time left 0:00:50

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Discrete Mathematics (1) - All sections

Question 2

Answer saved
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Flag question

The inverse of the statement "If x is even, then $x + 1$ is odd" is

Select one:

- ☒ A. If x is odd, then $x + 1$ is even
- ☐ B. If $x + 1$ is odd, then x is odd
- ☐ C. If $x + 1$ is even, then x is odd
- ☐ D. If $x + 1$ is odd, then x is even

[Clear my choice](#)

Quiz navigation



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Time left 0:00:42

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Discrete Mathematics (1) - All sections

Question 3
Answer saved
Marked out of 3.00
Flag question

Let p : Climbing is safe
q : Weather temperature is less than 0
r : The guide is familiar with the mountain.
Express the following statement using symbols
'For climbing to be safe it is necessary but not sufficient that the weather temperature is above 0 and your guide is familiar with the mountain.'

- Select one:
- ☐ a. $[p \rightarrow (\neg q \wedge r)] \wedge \neg[p \rightarrow (\neg q \wedge r)]$
 - ☐ b. $[(p \vee q) \rightarrow r] \wedge \neg[(p \vee q) \rightarrow r]$
 - ☒ c. $[p \rightarrow (\neg q \wedge r)] \wedge \neg[(\neg q \wedge r) \rightarrow p]$
 - ☐ d. $[p \rightarrow (\neg q \wedge r)] \wedge \neg[(\neg q \wedge \neg r) \rightarrow p]$
- [Clear my choice](#)

Quiz navigation

1	2	3	4	5	6	7	8
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[Finish attempt ...](#)
Time left 0:00:33



Discrete Mathematics (1) - All sections

Question
4

Answer saved
Marked out of
2.00
Flag question

$\sim(\exists x \times P(x))$ is equivalent to $\forall x P(x)$.

Select one:

- ☐ True
☒ False

Quiz navigation

1 2 3 4 5 6 7 8

Finish attempt ...

Time left 0:00:28

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Discrete Mathematics (1) - All sections

Question 5

Answer saved
Marked out of 2.00

Flag question

The negation of the statement " $\exists x \in \mathbb{R}, x^2 - 1 \geq 0$ " is

Select one:

- ☐ A. $\forall x \in \mathbb{R}, x^2 - 1 \geq 0$
- ☐ B. $\forall x \in \mathbb{R}, x^2 - 1 \leq 0$
- ☒ C. $\forall x \in \mathbb{R}, x^2 - 1 < 0$
- ☐ D. $\forall x \in \mathbb{R}, x^2 - 1 > 0$

[Clear my choice](#)

Quiz navigation



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Discrete Mathematics (1) - All sections

Question 6
Answer saved
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Let $\neg(P(x))$ be the statement " $x+1 > 2x$ ". If the domain consists of all integers, then the truth value of the statement " $\neg(\forall x \neg P(x))$ " is the same as

Select one:

- ☒ a. $\neg(\forall x \neg P(x))$
- ☐ b. $\neg(P(2))$
- ☐ c. $\neg(\exists x \neg P(x))$
- ☐ d. $\neg(P(1))$

[Clear my choice](#)

Quiz navigation

1	2	3	4	5	6	7	8
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[Finish attempt ...](#)

Discrete Mathematics (1) - All sections

Question
7

Answer saved
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3.00



Let m = "Juan is a math major,"
 c = "Juan is a computer science major,"
 g = "Juan's girlfriend is a literature major,"
 h = "Juan's girlfriend has read Hamlet," and
 t = "Juan's girlfriend has read The Tempest."
Which of the following expresses the statement "Juan is a computer science major and a math major, but his girlfriend is a literature major who hasn't read both The Tempest and Hamlet."

Select one:

- ☒ A. $c \wedge m \wedge g \wedge (\sim h \wedge \sim t)$
- ☐ B. $c \wedge m \wedge (g \vee (\sim h \vee \sim t))$
- ☐ C. $c \wedge m \wedge (g \vee (\sim h \wedge \sim t))$
- ☐ D. $c \wedge m \wedge g \wedge (\sim h \vee \sim t)$
- ☐ E. $c \wedge m \wedge g \wedge (h \vee t)$

[Clear my choice](#)

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Quiz navigation



[Finish attempt ...](#)

OneDrive
Screenshot saved
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Discrete Mathematics (1) - All sections

Question 8

Answer saved

Started out of 2.00

Let P: This is a great website, Q: You should not come back here. Then 'This is a great website and you should come back here.' is best represented by?

Select one:

☐ a. $P \wedge Q$

☐ b. $P \vee Q$

☐ c. $\neg P \vee \neg Q$

☒ d. $P \wedge \neg Q$

Clear my choice

Quiz navigation

1

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8

Finish attempt ...

OneDrive

Screenshot saved

The screenshot was added to your OneDrive

Discrete Mathematics (1) - All sections

Question 2

Not yet answered

Marked out of 2.00

Flag question

The inverse of the statement "If x is even, then $x + 1$ is odd" is

Select one:

- ☒ A. If x is odd, then $x + 1$ is even
- ☐ B. If $x + 1$ is odd, then x is odd
- ☐ C. If $x + 1$ is even, then x is odd
- ☐ D. If $x + 1$ is odd, then x is even

[Clear my choice](#)

Quiz navigation

1	2	3	4	5	6	7	8
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[Finish attempt ...](#)

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Quiz 1 (Makrup) (page 2 of 8) - Google Chrome

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PSUTE-E-LEARNING

Discrete Mathematics (1) - All sections

Question 2

Answer saved

Marked out of 2.00

Flag question

Which of the following statement is a proposition?

Select one:

☒ a. The only odd prime number is 2

☐ b. What is the time now?

☐ c. God bless you!

☐ d. Get me a glass of milkshake.

[Clear my choice](#)

Quiz navigation

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[Finish attempt...](#)

Time left 0:13:26

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OneDrive

Screenshot saved

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Discrete Mathematics (1) - All sections

Question 2

Not yet answered

Marked out of 2.00

Flag question

What is the truth value of $\forall x \forall y (xy \geq x+y), x, y \in \mathbb{Z}^+$?

Write TRUE or FALSE only.

Answer:

FALSE

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Quiz navigation

Rules



New heading

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15			

Finish attempt ...

Time left 0:53:51

Discrete Mathematics (1) - All sections

Question 3

Not yet answered
Marked out of 2.00

Flag question

Translate the statement $\exists x(K(x) \wedge H(x))$ into English where $K(x)$ is " x is a driver" and $H(x)$ is " x wins" and the domain consists of all people. choose the correct answer(s)

Select one:

- ☐ a. Every one is a driver and every one wins
- ☒ b. Some winning people are drivers
- ☐ c. There exists some one that is a driver or wins.
- ☐ d. There exists a person such that if he is a driver then he wins.

Clear my choice

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Quiz navigation

Rules



New heading

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15			

Finish attempt ...

Time left 0:49:44

Discrete Mathematics (1) - All sections

Question
7

Not yet
answered

Marked out of
2.00

Flag question

To prove that if n is an odd integer, then $5n + 2$ is odd, we assume that $n =$

, then $5n + 2 =$

, therefore $5n + 2 =$

and hence $5n + 2$ is

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Quiz navigation

Rules



New heading

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15			

Finish attempt ...

Time left 0:32:35

Discrete Mathematics (1) - All sections



Question 9

Not yet answered

Marked out of 2.00

Flag question

The statement $\neg p \rightarrow (q \rightarrow r)$ is logically equivalent to .

- a) $q \rightarrow (p \vee r)$.
- b) $p \rightarrow (p \vee r)$.
- c) $p \rightarrow (q \vee r)$.
- d) $q \rightarrow (q \vee r)$.

Answer:

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Quiz navigation

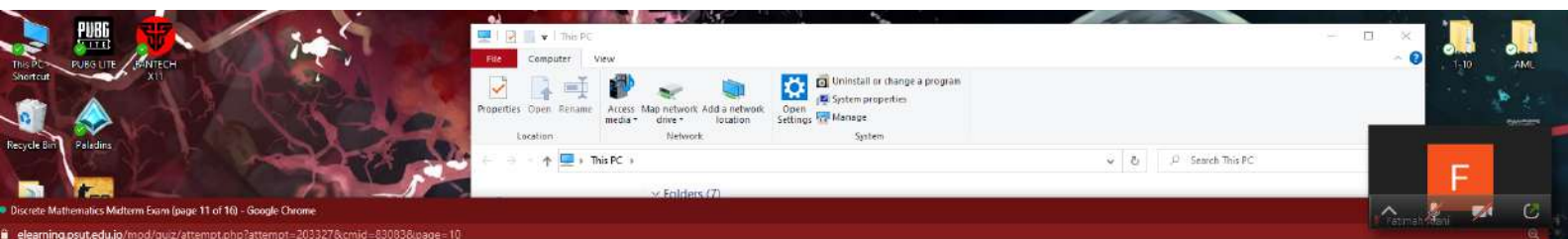
Rules

New heading

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15			

Finish attempt ...

Time left 0:22:58



Discrete Mathematics Midform Exam (page 11 of 16) - Google Chrome

learning.psut.edu.jo/mod/quiz/attempt.php?attempt=203327&cmid=830836&page=10

PSUT E-LEARNING

Discrete Mathematics (1) - All sections

Question
10

Not yet
answered

Marked out of
2.00

Flag question

Write the contrapositive of the conditional statement "The train runs late on exactly those days when I take the train" by using "unless"

Select one:

- ☐ a. "I do not take the train unless the train runs late on exactly those days".
- ☒ b. "The train does not run late on exactly those days unless I take the train".
- ☐ c. "I take the train unless the train does not run late on exactly those days".
- ☐ d. "I do not take the train unless the train does not run late on exactly those days".
- ☐ e. "I take the train unless the train does run late on exactly those days".

[Clear my choice](#)

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Quiz navigation

Rules

1

New heading

1 2 3 4 5 6 7 8 9
10 11 12 13 14 15

[Finish attempt ...](#)

Time left **0:16:03**



Discrete Mathematics (1) - All sections



Question 12

Not yet answered

Marked out of 2.00

Flag question

To show that if $x \in \mathbb{Z}$ and $x^2 - 6x + 5$ is an even integer then x is an odd integer. You will apply the

method by assuming x is

and $x^2 - 6x + 5$ is

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Quiz navigation

Rules

1

New heading

1	2	3	4	5	6	7	8	9
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Finish attempt ...

Time left 0:14:49

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Grade 23.00 out of 30.00 (77%)

10 11 12 13 14

Show one page at a time

FINISH REVIEW

Question 1

Correct

Mark 2.00 out of 2.00

Flag question

Let $x < 0$. If $\cosh(x) = \frac{5}{3}$, then $\tanh(x) =$

Select one:

- ☐ $-\frac{4}{3}$
- ☐ $\frac{4}{5}$
- ☐ $\frac{4}{3}$
- ☐ 1
- ☒ $-\frac{4}{5}$



Question 2

Correct

Mark 2.00 out of 2.00

Flag question

Find the sum of the series if possible.

$$\sum_{n=1}^{\infty} \left(\frac{1}{\ln(n+5)} - \frac{1}{\ln(n+4)} \right)$$

Select one:

- ☐ $-\ln(5)$
- ☒ $-\frac{1}{\ln(5)}$
- ☐ $-\ln(4)$
- ☐ The series is divergent
- ☐ $-\frac{1}{\ln(4)}$



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Question 3

Correct

Mark 2.00 out of 2.00

Flag question

The partial fractions decomposition that represent $\frac{x^2 - 5x + 1}{x^3 - 1}$ is

Select one:

- ☐ $1 + \frac{7}{2(x+1)} - \frac{3}{2(x-1)}$
- ☐ $1 - \frac{7}{2(x+1)} + \frac{3}{2(x-1)}$
- ☐ $1 + \frac{7}{2(x+1)} + \frac{3}{2(x-1)}$
- ☒ $1 - \frac{7}{2(x+1)} - \frac{3}{2(x-1)}$
- ☐ $1 - \frac{3}{2(x+1)} - \frac{7}{2(x-1)}$

Question 4

Correct

Mark 2.00 out of 2.00

Flag question

For which values of p is $\int_1^{\infty} \frac{e^{8x}}{(8 + e^{8x})^4} dx$ convergent?

Select one:

- ☐ $p > 12$
- ☐ $p > 3$
- ☐ $p < 12$
- ☒ $p < 3$
- ☐ $p = 12$

Question 5

Evaluate



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- ☐ p=12
- ☒ p<3 ✓
- ☐ p=12

Question 5

Correct
Mark 2.00 out of 2.00

Flag question

Evaluate

$$\int_0^{\pi/2} \sin(9x) \cos(7x) dx$$

1/2



Question 6

Correct
Mark 2.00 out of 2.00

Flag question

Consider the series $\sum_{n=1}^{\infty} a_n$ where $a_n = n \sin\left(\frac{3}{4n}\right)$.

Then $\lim_{n \rightarrow \infty} a_n =$

3/4



which implies the series is

The series is divergent by the divergence test



Question 7

Partially correct
Mark 1.00 out of 2.00

Flag question

The series $\sum_{n=5}^{\infty} \frac{\ln(5n+1)}{5n+1}$ is

convergent



by

the integral test



Question

Find the sum of the series

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☐ $\int \frac{x}{\sqrt{1-x^2}} dx$

Question 10

Incorrect

Mark 0.00 out of 2.00

Flag question

Fully simplify $y = (x^2 + 1)\operatorname{sech}(\ln x)$ then take the derivative, you get $y' =$

Write your answer without any spaces

Answer:

✖

Question 11

Incorrect

Mark 0.00 out of 2.00

Flag question

Which of the following integrals equals to $\int \frac{\log_2(x \ln 2)}{x} dx$ after you make the substitution $u = \log_2(x \ln 2)$?

Select one:

☒ $\int u \, du$

✖

☐ $\int \frac{1}{u} \, du$

☐ $\int \frac{\ln 2}{u} \, du$

☐ $\int u \ln 2 \, du$

Question 12

Correct

Mark 2.00 out of 2.00

Flag question

For which of the following integrals is integration by parts with $u = x$ and $dv =$ (the rest of the integrand) dx a reasonable choice?

Select one:

☐ $\int \frac{x}{\ln x} \, dx$