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NPTEL

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Courses » Nonlinear Programming

Announcements **Course** Ask a Question Progress Mentor FAQ

Unit 1 - How to access the portal

Course outline

How to access the portal

- How to access the home page?
- How to access the course page?
- How to access the MCQ, MSQ and Programming assignments?
- Quiz : Assignment 0

Week-1

Week-2

Week-3

Week-4

WEEKLY FEEDBACK

DOWNLOAD VIDEOS

Assignment 0

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2018-08-27, 23:59 IST.

1) $Let\ A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 3 & 2 \\ 2 & 6 & 3 \end{bmatrix}.\ If\ A^{-1} = \begin{bmatrix} \alpha & -12 & 5 \\ -1 & 3 & \beta \\ 0 & 2 & -1 \end{bmatrix},\ then\ \alpha + \beta\ equals$ ***1 point***

- 0
- 1
- 2
- 3

No, the answer is incorrect.
Score: 0

Accepted Answers:
2

2) $In\ above\ problem,\ if\ A \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 1 \\ 3 \\ 5 \end{bmatrix},\ then$ ***1 point***

- x=-1,y=3,z=1
- x=-11,y=3,z=2
- x=-1,y=2,z=1
- x=-8,y=3,z=1

No, the answer is incorrect.
Score: 0

Accepted Answers:
x=-8,y=3,z=1

3) $The\ optimal\ value\ of\ the\ linear\ programming\ problem$: ***1 point***

- -5
- -6

No, the answer is incorrect.
Score: 0

Accepted Answers:
-5

4) *The optimal value of the linear programming problem* : **1 point**

$\max\ z = 3x + 2y$
$s/t\ 2x + 3y\ \leq\ 6,$
$x\ \leq\ 2$
$x, y\ \geq\ 0,$
is

- 0
- 4
- 6
- $\frac{22}{3}$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\frac{22}{3}$

5) *The optimal solution* (x, y) *of the linear programming problem* **1 point**

$\max z = 2x + 3y$
$s/t\ x + 3y\ \leq\ 6$
$3x + 2y\ \leq\ 6$
$x, y\ \geq\ 0$
is

- (0,0)
- (2,0)
- (0,2)
- $(\frac{6}{7}, \frac{12}{7})$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$(\frac{6}{7}, \frac{12}{7})$

6) Which of the following problem is NOT a linear programming problem **1 point**

- $\max\ 3x - 2y$
  $s/t\ 2x + y\ \geq\ 6$
  $x, y\ \in\ \mathbb{R}$

$\min\ x+2y$
$s/t\ x-y\ \leq\ 1$
$x,y\ \geq\ 0\ and\ integers$

$\max\ x-2y$
$s/t\ xy\ \leq\ 10$
$x,y\ \geq\ 0$

$\min\ x+2y$
$x+2y\ \leq\ \pi$
$x,y\ \geq\ 0.$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\max\ x-2y$
$s/t\ xy\ \leq\ 10$
$x,y\ \geq\ 0$

7) ***1 point***

$Let\ S_1=\{(x,y)\in\mathbb{R}^2; x^2+y^2\ \leq\ 1\}\ and\ S_2=\{(x,y)\in\mathbb{R}^2;\ x+y\ \leq\ 1\ \&\ x,y\geq 0\}.$
$Then\ S_1\cap S_2\ is$

an empty set

S_1

$\{(x,y)\in\mathbb{R}^2; x+y\ \leq\ 1\}$

S_2

No, the answer is incorrect.
Score: 0

Accepted Answers:
S_1

8) $Consider\ the\ system\ of\ linear\ equations$ ***1 point***

$x+y+z=6$
$x-y+z=2.$
$Then\ the\ system\ has$

a unique solution

infinite number of solution

no solution

$the\ whole\ \mathbb{R}^3\ as\ its\ solutions$

No, the answer is incorrect.
Score: 0

Accepted Answers:
infinite number of solution

9) ***1 point***

The solution of the linear system of equations
$x + 2y + 3z = 1$
$x + 3y + 6z = 2$
$2x + 6y + 3z = 3$
is

- $x = -\frac{2}{3}, y = \frac{2}{3}, z = \frac{1}{9}$
- $x = -\frac{2}{3}, y = \frac{2}{3}, z = \frac{1}{3}$
- $x = 0, y = -3, z = 2$
- $x = -4, y = 2, z = 3$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$x = -\frac{2}{3}, y = \frac{2}{3}, z = \frac{1}{9}$

10) *Let $x = (1, 0)$ and $y = (0, 1)$. Then the set $\mathbb{R}^2 = \{\alpha x + \beta y\}$, if* **1 point**

- $\alpha \in \mathbb{R},\ \beta \in \mathbb{R}$
- $\alpha \in \mathbb{R},\ \beta \in \mathbb{Z}$
- $\alpha \in \mathbb{Z},\ \beta \in \mathbb{R}$
- $\alpha \in \mathbb{Z},\ \beta \in \mathbb{Z}$

No, the answer is incorrect.
Score: 0

Accepted Answers:
$\alpha \in \mathbb{R},\ \beta \in \mathbb{R}$

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