Linear Programming · Partner Check 1

A

Name: _____ Partner's name: _____ Date: _____

Directions: Work alone on your own problems. Partner B has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

Maximize $P = 4x + 4y$ subject to $2x + 3y \le 17$, $3x + y \le 15$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate $P = 1x + 7y$ at $(8, 1)$.

Answer: _____ Match? ☐ Yes ☐ No

3

At $(1, 1)$, how much slack does $3x + 2y \le 34$ have?

Answer: _____ Match? ☐ Yes ☐ No

4

Find the corner where $2x + 2y = 20$ meets $1x + 2y = 15$.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the corner where $3x + 1y = 9$ meets $2x + 2y = 10$.

Answer: _____ Match? ☐ Yes ☐ No

6

Maximize $P = 2x + 4y$ subject to $x + 2y \le 8$, $3x + 2y \le 15$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

Linear Programming · Partner Check 1

B

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Directions: Work alone on your own problems. Partner A has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
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1

Maximize P = 4x + 4y subject to 2x + 3y ≤ 14, x + 2y ≤ 11, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate P = 1x + 2y at (1, 7).

Answer: _____ Match? ☐ Yes ☐ No

3

At (1, 0), how much slack does 3x + 1y ≤ 32 have?

Answer: _____ Match? ☐ Yes ☐ No

4

Find the corner where 1x + 2y = 15 meets 1x + 3y = 20.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the corner where 2x + 3y = 13 meets 3x + 3y = 15.

Answer: _____ Match? ☐ Yes ☐ No

6

Maximize P = 3x + 1y subject to 2x + 2y ≤ 16, 3x + 3y ≤ 16, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

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1

Maximize P = 1x + 4y subject to 2x + 2y ≤ 8, x + 2y ≤ 8, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

2

Find the corner where 2x + 1y = 14 meets 3x + 2y = 24.

Answer: _____ Match? ☐ Yes ☐ No

3

At (2, 3), how much slack does 3x + 1y ≤ 40 have?

Answer: _____ Match? ☐ Yes ☐ No

4

Maximize P = 3x + 2y subject to x + 2y ≤ 15, 3x + 3y ≤ 17, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the corner where 1x + 2y = 12 meets 1x + 1y = 7.

Answer: _____ Match? ☐ Yes ☐ No

6

Evaluate P = 4x + 9y at (0, 4).

Answer: _____ Match? ☐ Yes ☐ No

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Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

Maximize P = 2x + 3y subject to x + 2y ≤ 16, 2x + 3y ≤ 16, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

2

Find the corner where 2x + 3y = 26 meets 1x + 3y = 22.

Answer: _____ Match? ☐ Yes ☐ No

3

At (0, 1), how much slack does 3x + 1y ≤ 32 have?

Answer: _____ Match? ☐ Yes ☐ No

4

Maximize P = 2x + 3y subject to 3x + y ≤ 17, 3x + 3y ≤ 17, x, y ≥ 0. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

5

Find the corner where 1x + 3y = 17 meets 2x + 3y = 19.

Answer: _____ Match? ☐ Yes ☐ No

6

Evaluate P = 5x + 3y at (6, 2).

Answer: _____ Match? ☐ Yes ☐ No

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Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

At (2, 2), how much slack does $1x + 2y \le 33$ have?

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate $P = 9x + 4y$ at (0, 0).

Answer: _____ Match? ☐ Yes ☐ No

3

Find the corner where $3x + 3y = 9$ meets $3x + 2y = 7$.

Answer: _____ Match? ☐ Yes ☐ No

4

Find the corner where $1x + 2y = 8$ meets $2x + 1y = 13$.

Answer: _____ Match? ☐ Yes ☐ No

5

Maximize $P = 4x + 2y$ subject to $x + 3y \le 6$, $2x + y \le 18$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

6

Maximize $P = 2x + 4y$ subject to $x + 2y \le 18$, $x + 2y \le 7$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

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B

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Directions: Work alone on your own problems. Partner A has different problems with the same answers. After each problem, compare answers; if they differ, find the mistake together.
Answer conventions: sets in roster form with elements in increasing order, ∅ for the empty set; truth columns as T/F strings in standard row order (TT, TF, FT, FF; with r: TTT, TTF, ..., FFF); fractions in lowest terms; ordered pairs as (x, y).

1

At (0, 1), how much slack does $4x + 4y \le 31$ have?

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate $P = 1x + 9y$ at (0, 0).

Answer: _____ Match? ☐ Yes ☐ No

3

Find the corner where $3x + 2y = 7$ meets $1x + 1y = 3$.

Answer: _____ Match? ☐ Yes ☐ No

4

Find the corner where $2x + 3y = 15$ meets $2x + 2y = 14$.

Answer: _____ Match? ☐ Yes ☐ No

5

Maximize $P = 1x + 2y$ subject to $x + y \le 12$, $x + y \le 17$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No

6

Maximize $P = 2x + 3y$ subject to $2x + y \le 16$, $x + 2y \le 7$, $x, y \ge 0$. Give the maximum value.

Answer: _____ Match? ☐ Yes ☐ No