Consider the following four LP formulations. Using a graphical approach, determine

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| a. Which formulation has more than one optimal solution |
| b. Which formulation is unbounded |
| c. Which formulation has no feasible solution |
| d. Which formulation is correct as is |

Formulation 1

Maximize 10X₁ + 10X₂

Subject to 2X₁ ≤ 10

 2X₁ + 4X₂ ≤ 16

 4X₂ ≤ 8

 X₁ = 6

Formulation 2

Maximize X₁ + 2X₂

Subject to X₁ ≤ 1

 2X₂ ≤ 2

 X₁ + 2X₂ ≤ 2

Formulation 3

Maximize 3X₁ + 2X₂

Subject to X₁ + X₂ ≥ 5

 X₁ ≥ 2

 2X₂ ≥ 8

Formulation 4

Maximize 3X₁ + 3X₂

Subject to 4X₁ + 6X₂ ≤ 48

 4X₁ + 2X₂ ≤ 12

 3X₂ ≥ 3

 2X₁ ≥ 2