BUSN 301: Intermediate Microeconomic Theory

Problem Set #0

Spring 2026

INSTRUCTIONS:

- This problem set is not graded.

Problem 1. System of Linear Equations

Find the value(s) of x and y:

1.A. $x + 2y = 5$
$x + y = 3$

1.B. $4x + y = 9$
$2x + 3y = 7$

1.C. $2x - y = 1$
$x + 2y = 18$

1.D. $2x + 3y = 18$
$3x + 2y = 22$

1.E. $x + 3y = 8$
$-x + 2y = 2$

Problem 2. Exponents

Solve the following.

2.A. $x \times x \times x$
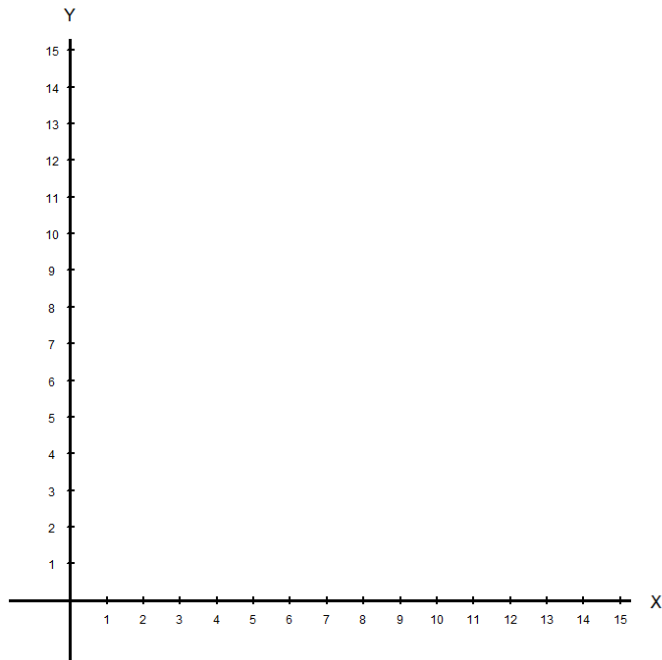
2.B. $x^3 \times x^2$

2.C. $x^2 \times y \times x$

2.D. $\dfrac{x^3}{x}$

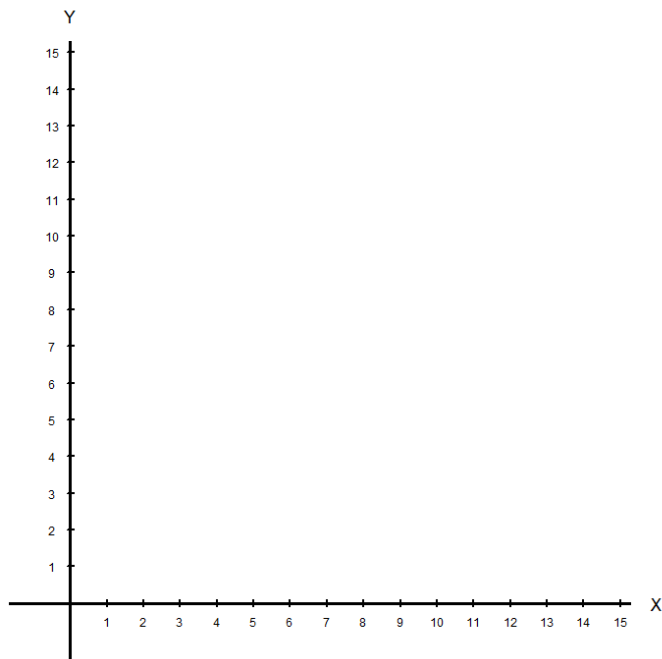2.E. $\dfrac{x^5 \times y}{x^2 \times y^2}$

Problem 3. Slopes

Plot the following equations on the empty chart, and calculate their respective slopes.
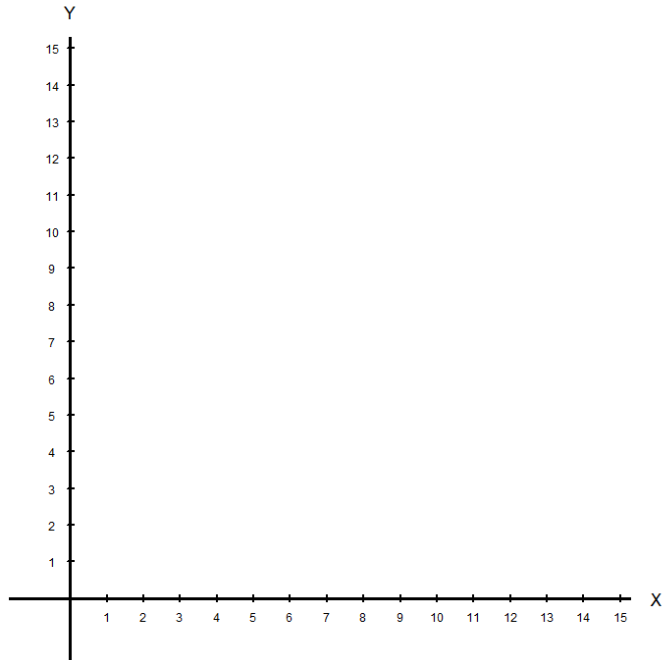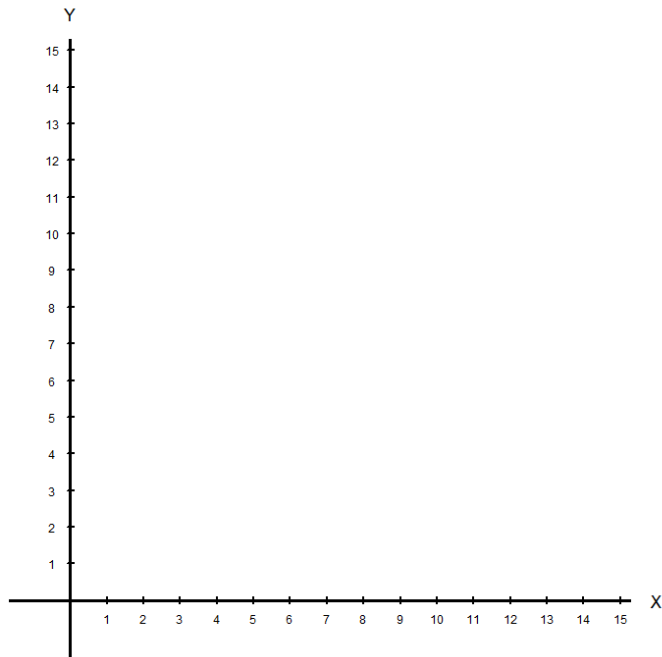
3.A. $y = 3x + 1$

3.B. $y = 14 - 2x$

Problem 3. Slopes (Continued)

3.C. $y = 7 - \dfrac{1}{2}x$

3.D. $y = 5 + \dfrac{1}{2}x$

Problem 4. Derivatives

Solve.

4.A. $\dfrac{d}{dx}2x$

4.B. $\dfrac{d}{dx}x^2$

4.C. $\dfrac{d}{dx}(2x^5 + x^2)$

4.D. $\dfrac{\partial}{\partial x}xy^2$

4.E. $\dfrac{\partial}{\partial y}xy^2$