

Name: _____

GTID: _____

Answer the questions in the spaces provided and BOX your answer. Organize and show your work for full credit.

1. Find $(A \cup B) \cap (C \cup D)$.

$$A = \{1, 2\}, \quad B = \{1, 3, 5\}, \quad C = \{2, 4\}, \quad D = \{2, 3, 4\}.$$

2. Simplify: $\left(\frac{x^6}{4y}\right)(2xy^{-1})^3$

3. Simplify: $(x^2 + x - 2)(x - 3)$

4a. Solve: $4x^2 + x - 3 = 0$
Hint: quadratic formula.

4b. Factor: $4x^2 + x - 3$
Hint: use your answer from #4a.

5. Simplify: $\frac{-10}{-3 - i}$