

Complete as many of the following problems as you can with your group. You do not have to go in order. Each group will be given a specific problem that they must complete and present to either Professor MG or to Stefanie before they leave.

- (1) Solve the following inequality. Write your answer in interval notation: $-x^2 + 6x + 7 \geq 0$
- (2) Solve the following inequality. Write your answer in interval notation: $2x^2 - 7x + 3 > 0$
- (3) Solve the following inequality. Write your answer in interval notation: $9 - x^2 > 0$
- (4) Solve the following inequality. Write your answer in interval notation: $x^2 + 2x - 15 < 0$
- (5) Solve the following inequality. Write your answer in interval notation: $17x + 5 \geq -6x^2$
- (6) Solve the following inequality. Write your answer in interval notation: $5x^2 + 2x \leq 0$
- (7) Solve the following inequality. Write your answer in interval notation: $x^2 + 4x + 3 \leq 0$
- (8) Solve the following inequality. Write your answer in interval notation: $x^2 + 7x + 10 > 0$
- (9) Solve the following inequality. Write your answer in interval notation: $5x^2 - 27x \leq -10$
- (10) Solve the following inequality. Write your answer in interval notation: $2x^2 + 4x + 4 > -5x$

Key:

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|---|---|--|
| (1) $[-1, 7]$ | (5) $(-\infty, -\frac{5}{2}] \cup (-\frac{1}{3}, \infty)$ | (8) $(-\infty, -5) \cup (-2, \infty)$ |
| (2) $(-\infty, \frac{1}{2}) \cup (3, \infty)$ | (6) $[-\frac{2}{5}, 0]$ | (9) $[\frac{2}{5}, 5]$ |
| (3) $(-3, 3)$ | (7) $[-3, -1]$ | (10) $(-\infty, -4) \cup (-\frac{1}{2}, \infty)$ |
| (4) $(-5, 3)$ | | |