Intermediate Algebra	Name:
Study Guide 5	Class:
Due Date:	Score:

No Work ⇔ No Points

Use Pencil Only ⇔ Be Neat & Organized

1. **(4 points) Solve, graph, then give your final answer in <u>interval</u> notation:**
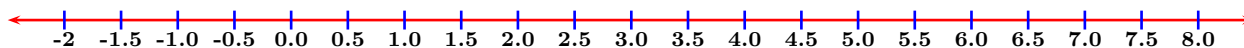
    $-10x - 7 < 13$ **OR** $4x + 5 \geq 13$
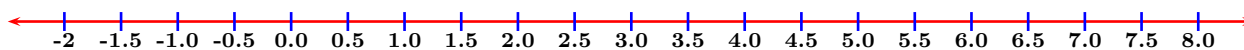
    1. _____

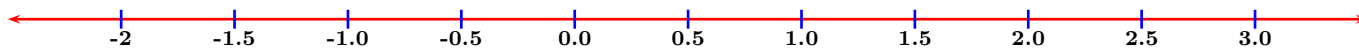2. **(4 points) Solve, graph, then give your final answer in <u>set-builder</u> notation:**

    $-6x + 7 < 13$ **AND** $4x - 3 \leq 5$

    2. _____

3. **(3 points) Solve, graph your solution:**

    $-10 \leq -4x - 6 < 2$

4. (3 points) Solve: $|4x - 7| = 9$

4. _____

5. (3 points) Solve: $|5x + 9| = |2x - 6|$

5. _____

6. Consider the function $f(x) = |2x - 3|$, **solve**
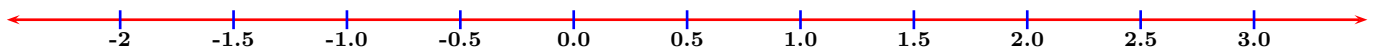
   (a) (1 point) Solve $f(x) = -4$

(a) _____

   (b) (3 points) Solve $f(x) = 7$

(b) _____

7. (3 points) Consider $f(x) = -3x + 2$ **, solve, graph, then give your final answer in** <u>interval</u> **notation:**

$-1 \leq f(x) \leq 5$

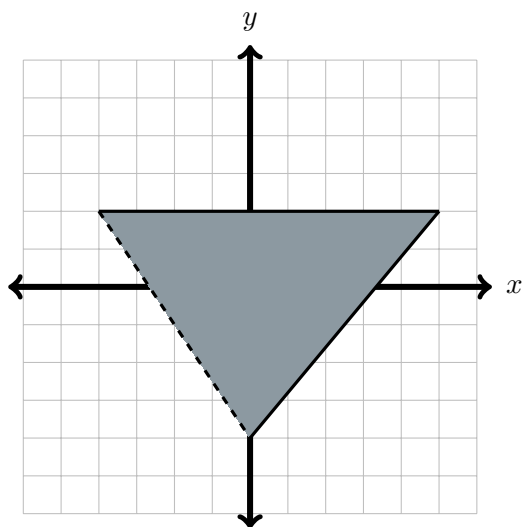7. _____

8. **(3 points)** Find the domain for the function $f(x) = \dfrac{x-1}{x^2-25}$, express your answer in <u>interval</u> notation.
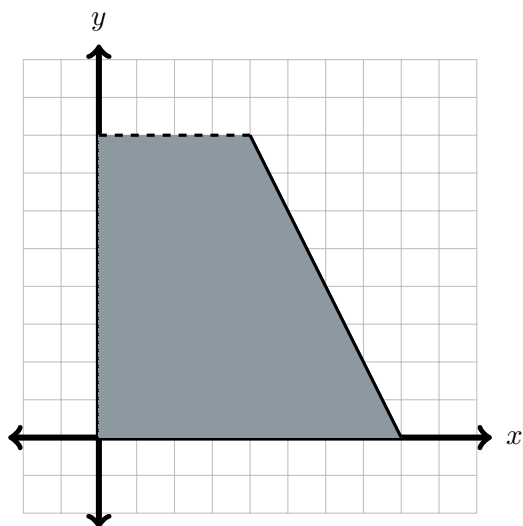
<div align="right">8. _____</div>

9. **(3 points)** Find a system of linear inequalities that satisfies the following shaded region.

<div align="right">9. _____</div>

10. **(4 points)** Find a system of linear inequalities that satisfies the following shaded region.

<div align="right">10. _____</div>

11. (2 points) Solve $|2x - 1| + 5 < 0$.

11. _____

12. (2 points) Solve $|3x + 4| + 5 > 1.$

12. _____

13. (4 points) Solve $2|4x + 3| - 1 \leq 5$, **and express your answer in** <u>interval</u> **notation.**

13. _____

14. (4 points) Solve $-3|2x - 5| + 4 \leq -2$, **and express your answer in** <u>set–builder</u> **notation.**

14. _____

15. Beginning Algebra Review Problems:

    (a) **(2 points) Simplify:** $\dfrac{x^2 - 9}{x^2 - 6x + 9}$

(a) _____

    (b) **(2 points) Simplify:** $\dfrac{3}{x^2 - 5x - 14} - \dfrac{2}{x^2 - 4}$

(b) _____