Algebra 2

math.mnrt.net **Practice Exam**

_____, _____. _____ of **122** points. _____. _____.
Last name (please print) First name (please print) Points Percent Letter

- Partial credit is given. Clearly written well reasoned solutions make it easier for the grader to appreciate what you know. Messy or poorly reasoned solutions have the opposite effect.
- You have 45 minutes and there are 13 questions. So you have an average of 3.5 minutes per question. Some questions are routine, leaving you more time for those that are less routine. You should not have to rush.
- A lot of space follows some questions. That does not necessarily mean the solution is long.
- If a question asks for a point, please be sure to answer with a point.
- Advice. First pass: skip problems you cannot do easily. Second pass: work problems you skipped on first pass.
- This exam consists of 6 pages. Keep turning pages until you know you have reached the end.

(11 pts) 1. Find the slope of the line through the points $(-5,3),(6,-9)$.

2. Consider the line $y = \frac{-2}{3}x + \frac{5}{3}$.

(5 pts) (a) What the slope of this line?

(5 pts) (b) At what point does this line intersect the y-axis?

(5 pts) (c) At what point does this line intersect the x-axis?

3. Consider the two lines

$$\ell_1: \quad y = \frac{-1}{5}x + \frac{2}{3}$$
$$\ell_2: \quad y = \frac{2}{5}x + \frac{1}{4}.$$

(5 pts) (a) Are the lines ℓ_1 and ℓ_2 parallel? How do you know?

(5 pts) (b) Are the lines ℓ_1 and ℓ_2 perpendicular? How do you know?

(6 pts) 4. At what point do the lines $x = -2$ and $y = 17$ intersect?

5. Consider the line $-2x + 4y = 5$.

(9 pts) (a) Write the slope of this line.

(9 pts) (b) At what point does this line intersect the y-axis?

(21 pts) 6. Write the equation of the line through the points $(6, 4)$ and $(9, 8)$. Answer in standard form.

(21 pts) 7. Write the equation of the line that is <u>parallel</u> to $3x - y = 4$ and goes through the point $(5, -10)$. Answer in standard form.

(10 pts) 8. Consider the two lines

$$\ell_1: \quad 6x - y = 5$$
$$\ell_2: \quad 3x - y = 2.$$

At what point (if any) do the lines ℓ_1 and ℓ_2 intersect?

(10 pts) 9. Find the number a that would make the line $ax + 5y = 1$ parallel to the line $y = \frac{2}{5}x + \frac{1}{4}$.