

I. Equation Forms for Lines, Part II:

1. $A\mathbf{x} + B\mathbf{y} = C$ Standard form

2. $y = mx + b$ Slope-intercept form

where... m = slope & $(0,b)$ is the y -intercept

3. $y - y_1 = m(x - x_1)$ Point-slope form

where... m = slope & (x_1, y_1) is a point on the line

II. Examples (p.247): Problems #6,18,**20,28**

III. Linear Equation Summary (p.246):

Examples (pp.247-248): Problems #**38,40,44,46**

HW: pp.247-248 / Problems #1-37(every other odd),
#41,45,49,51

Read pp.251-255 (section 3.7)

I. A First Example (p.256): Problem #2

II. Basic Info-Steps: **see p.253**

- a. Solution of an inequality is a “region” of points whose (x,y) -coordinates satisfy the inequality.
- b. The “boundary” line is defined by the equation resulting from replacing the inequality with an equality (*i.e.*, “=”).
- c. Determination of which region contains the solutions can be found by “testing” any point not on the boundary.
- d. If a test point satisfies the inequality then every point in that region does also, whereas if the point does not then none of the points in that region will either (but points in the opposite region will satisfy the inequality).
- e. The entire set of solutions is indicated by shading the appropriate region.

III. More Examples (p.256): Problems #4,22

IV. Boundary Line Convention:

- a. For either $<$ or $>$, the boundary line is a dashed line indicating its points are **not** part of the solution set.
- b. For either \leq or \geq , the boundary line is a solid line indicating its points are part of the solution set.

V. A Last Example (p.256): Problem #26

HW: p.256 / Problems #1-25(every other odd),27

Math 26 / Elementary Algebra: Review for Exam I (Chapters 1-3)

12 problems, closed-book, use of a straight-edge, **calculator** (no smart phones, tablets or computers allowed); pencil preferred, pen permitted but use at your own peril...

silence cell phones before entering classroom;

entire class period devoted to taking the exam;

no talking except w/instructor during the exam;

scratch paper allowed, however adequate space is provided on the exam to do most if not all of any work needed...

Chapter 1: minimal coverage...

but need to know the material on fractions, the **distributive property**, PEMDAS, and absolute value...

Chapter 2:

sections **2.3-2.8** are the most important, simplify expressions and solve linear equations/inequalities; Integers; **percent (%)**; 2-3 application problems (remember steps 1-3 can account for 60% credit)

Chapter 3: source for the majority of the test...

(much ado about linear equations)

graph a linear equation in either slope-intercept (*i.e.*, $y = mx + b$) form or standard (*i.e.*, $Ax + By = C$) form.

find the coordinates of the x - & y -intercept(s);

find the slope of a line given either two points on the line, $m = \frac{y_2 - y_1}{x_2 - x_1}$, or its equation (in any form);

find the equation for a line given sufficient info, and write the answer in either slope-intercept or standard form;

“anomalous” lines: horizontal ($y = b$, zero slope) vs. vertical ($x = a$, undefined slope); parallel lines (slopes are equal, $m_1 = m_2$) vs. perpendicular lines (slopes are negative reciprocals, $m_1 = -1/m_2$); graph a linear inequality