

Instructions: This is a list of some material that is essential prerequisite for this course. That is, your instructor expects that you have a definite idea of the notions expounded below and that you be able to solve the problems below without any review. If you find yourself having trouble on some items below you should seek immediate help from your instructor or from the tutors in the Learning Laboratory.

Essential prerequisites include:

- Arithmetic operations with signed numbers.
 - Ability to solve one-variable and two-variable linear equations.
 - Ability to solve one-variable linear inequalities.
 - Ability to plot points on the plane.
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You should be able to quickly answer all questions below without needing any review.

- Circle the correct sign between the numbers: $\frac{4}{5}$ $<$ $=$ $>$ $\frac{7}{6}$.
- Circle the correct sign between the numbers: $-\frac{10}{11}$ $<$ $=$ $>$ $-\frac{11}{13}$.
- In which quadrant is the point $(-3, -5)$?
- Solve the inequality $-3x \geq 6$.
- How many points are needed to completely determine a straight line on the plane?
- If two lines are not parallel, in how many points do they intersect?
- Solve the inequality $-5x + 3 > 3x - 5$.
- Solve the system of linear equations by the method of elimination:

$$x + y = 10, \quad x - y = 7.$$

- Solve the system of linear equations by the method of substitution:

$$7x + 3y = 9, \quad y = 3.$$

- $-2 + 4 - 7 + 1 =$
- $2 + (-4) - (-3) =$
- $(-3)(-7) =$
- $\frac{1}{2} + \frac{1}{5} =$
- $\left(\frac{3}{8}\right)\left(\frac{4}{9}\right) =$
- $\frac{2}{3} - \frac{3}{2} =$
- Solve for x : $3x + 7 = 22$.
- Solve for x : $3x + 7 = 22$.
- Solve for x : $2x - 1 = 5x + 5$.
- Solve for x : $1 - x = 3 - 4x$.
- Solve for x : $\frac{5}{3}x + \frac{1}{2} = 0$.