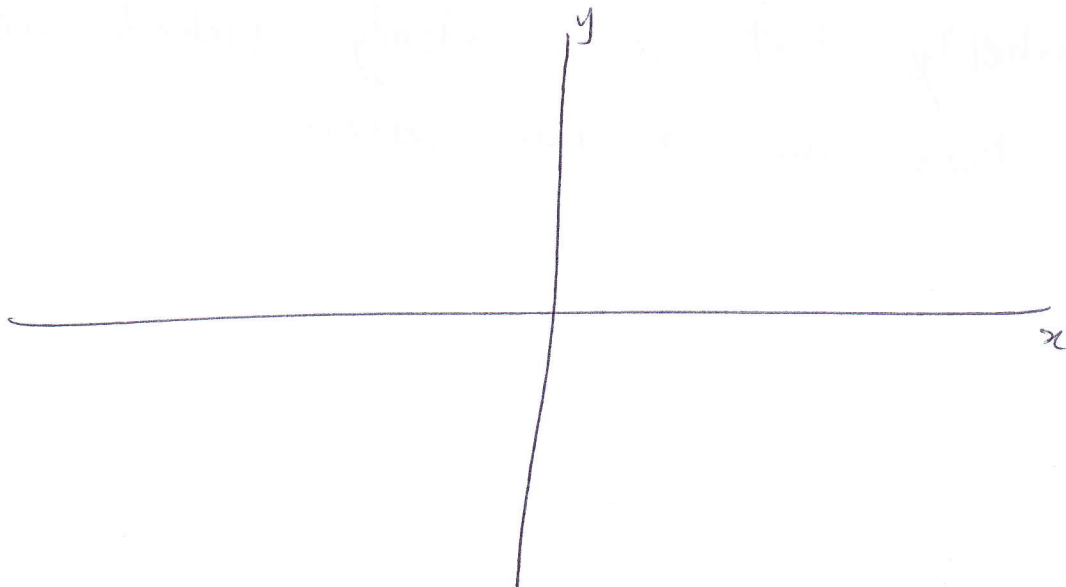


Problems

1) Graph the following in equality

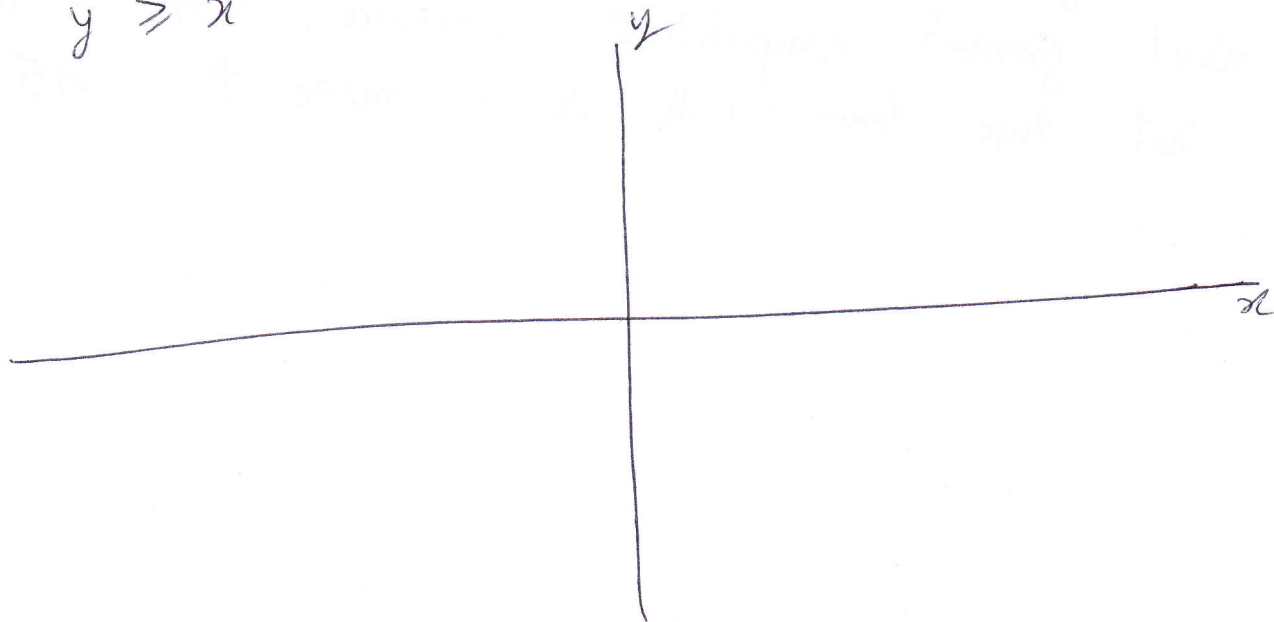
$$y = \sqrt{x} - 1 \quad \text{for } x \geq 0$$



2) Find the feasible region for the following inequalities.

$$y \geq \sqrt{x}$$

$$y \geq x^2$$



Problems

3) For the following set of scores of a basketball team:

35, 45, 90, 20, 56, 12, 29, 27

a) find the probability that a randomly picked score will be more than the median score.

b) find the probability that after the next game the mode of scores will change, assuming that given next game's competitor's competence, there is no chance that this team will score more than 45 points.

Problems

4) If sum of 5 consecutive integers is more than the sum of some other 3 consecutive integers, show the relationship between the smallest of the 5 integers and the smallest of the 3 integers.

5) Draw a graph and illustrate the feasible region for x and y if x = smallest of 5 integers mentioned above ~~and~~ and y = smallest of 3 integers mentioned above.



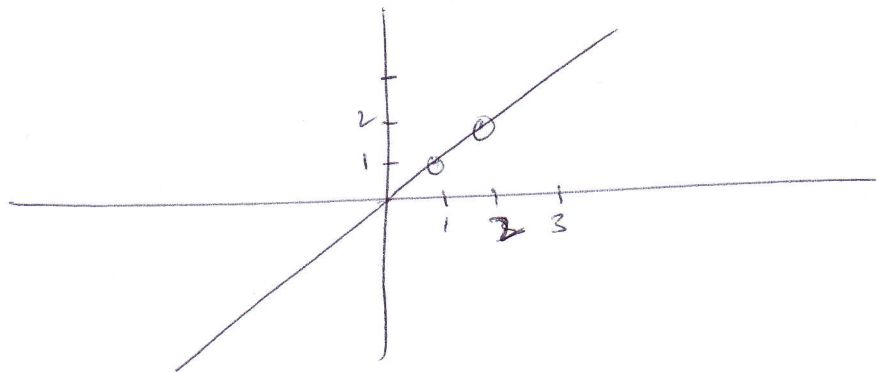
Problems

5) If the price of gasoline increases 10% in a year and is followed by a decrease of 10% in the next year and this pattern happens to repeat for 6 years, what will be the price of gasoline after 6th year if initial price is \$2/gallon.

b) Express the above problem as an equation where y = final price, x = initial price, p = % increase or decrease (e.g. 10% in above question) and n = total number of years (even number).

Problem 6

Given the following line



a) find the slope of a line that is perpendicular to the above line.

b) If the perpendicular line passes through the point $(0, 3)$, write the equation of that perpendicular line.