

Automatic Questionnaire

AN ATTEMPT TO GENERATE DIFFERENT VALUED QUESTIONS ON THE SAME PROBLEM SET

prajwalsouza.github.io

Linear Inequalities

A small set of problems

Abhinava, This one's for you. :)

Level 1

Problem 1

Solve $5x < 24$ when x is a natural number.

Problem 2

Solve $4x + 5 > 52$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 10 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 29.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 16 cm shorter than the longest side. If the perimeter of the triangle is atleast 149 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Ajith , This one's for you. :)

Level 1

Problem 1

Solve $5x < 57$ when x is a natural number.

Problem 2

Solve $2x + 5 > 30$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{6x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 22 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 18.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 14 cm shorter than the longest side. If the perimeter of the triangle is atleast 140 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Aaron, This one's for you. :)

Level 1

Problem 1

Solve $5x < 33$ when x is a natural number.

Problem 2

Solve $2x + 5 > 17$ when x is a real number.

Problem 3

Solve $\frac{10(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{0x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 21 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 30.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 9 cm shorter than the longest side. If the perimeter of the triangle is atleast 72 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Aysha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 48$ when x is a natural number.

Problem 2

Solve $6x + 5 > 49$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 26 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 18.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 13 cm shorter than the longest side. If the perimeter of the triangle is atleast 108 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Chinmay, This one's for you. :)

Level 1

Problem 1

Solve $5x < 59$ when x is a natural number.

Problem 2

Solve $4x + 5 > 29$ when x is a real number.

Problem 3

Solve $\frac{3(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 18 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 17.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 4 cm shorter than the longest side. If the perimeter of the triangle is atleast 52 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Clive, This one's for you. :)

Level 1

Problem 1

Solve $5x < 41$ when x is a natural number.

Problem 2

Solve $3x + 5 > 44$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{4x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 20 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 18.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 161 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Devagnik, This one's for you. :)

Level 1

Problem 1

Solve $5x < 34$ when x is a natural number.

Problem 2

Solve $5x + 5 > 24$ when x is a real number.

Problem 3

Solve $\frac{3(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{4x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 22 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 30.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 8 cm shorter than the longest side. If the perimeter of the triangle is atleast 92 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Drishya, This one's for you. :)

Level 1

Problem 1

Solve $5x < 59$ when x is a natural number.

Problem 2

Solve $2x + 5 > 14$ when x is a real number.

Problem 3

Solve $\frac{3(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 28 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 18 cm shorter than the longest side. If the perimeter of the triangle is atleast 151 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Eesh, This one's for you. :)

Level 1

Problem 1

Solve $5x < 23$ when x is a natural number.

Problem 2

Solve $4x + 5 > 27$ when x is a real number.

Problem 3

Solve $\frac{7(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 26 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 13 cm shorter than the longest side. If the perimeter of the triangle is atleast 108 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Fahima, This one's for you. :)

Level 1

Problem 1

Solve $5x < 51$ when x is a natural number.

Problem 2

Solve $5x + 5 > 59$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 27 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 30.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 6 cm shorter than the longest side. If the perimeter of the triangle is atleast 56 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Goutam, This one's for you. :)

Level 1

Problem 1

Solve $5x < 35$ when x is a natural number.

Problem 2

Solve $2x + 5 > 43$ when x is a real number.

Problem 3

Solve $\frac{8(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 22 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 190 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Gurupreeth, This one's for you. :)

Level 1

Problem 1

Solve $5x < 57$ when x is a natural number.

Problem 2

Solve $5x + 5 > 16$ when x is a real number.

Problem 3

Solve $\frac{10(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 17 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 29.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 160 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Haleema, This one's for you. :)

Level 1

Problem 1

Solve $5x < 43$ when x is a natural number.

Problem 2

Solve $4x + 5 > 38$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 28 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 20.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 6 cm shorter than the longest side. If the perimeter of the triangle is atleast 52 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Jehan, This one's for you. :)

Level 1

Problem 1

Solve $5x < 52$ when x is a natural number.

Problem 2

Solve $5x + 5 > 22$ when x is a real number.

Problem 3

Solve $\frac{2(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 14 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 26.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 16 cm shorter than the longest side. If the perimeter of the triangle is atleast 135 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Joseph, This one's for you. :)

Level 1

Problem 1

Solve $5x < 20$ when x is a natural number.

Problem 2

Solve $6x + 5 > 41$ when x is a real number.

Problem 3

Solve $\frac{7(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 29 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 23.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 18 cm shorter than the longest side. If the perimeter of the triangle is atleast 156 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Kaneeeksha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 20$ when x is a natural number.

Problem 2

Solve $2x + 5 > 13$ when x is a real number.

Problem 3

Solve $\frac{9(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{3x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 29 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 25.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 11 cm shorter than the longest side. If the perimeter of the triangle is atleast 92 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Likhith, This one's for you. :)

Level 1

Problem 1

Solve $5x < 34$ when x is a natural number.

Problem 2

Solve $5x + 5 > 37$ when x is a real number.

Problem 3

Solve $\frac{4(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 25 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 28.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 19 cm shorter than the longest side. If the perimeter of the triangle is atleast 181 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Lloyd, This one's for you. :)

Level 1

Problem 1

Solve $5x < 46$ when x is a natural number.

Problem 2

Solve $4x + 5 > 58$ when x is a real number.

Problem 3

Solve $\frac{3(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 18 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 24.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 183 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Mahzarin, This one's for you. :)

Level 1

Problem 1

Solve $5x < 29$ when x is a natural number.

Problem 2

Solve $6x + 5 > 23$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 13 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 15 cm shorter than the longest side. If the perimeter of the triangle is atleast 123 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Mesha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 40$ when x is a natural number.

Problem 2

Solve $3x + 5 > 16$ when x is a real number.

Problem 3

Solve $\frac{8(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{0x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 30 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 19.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 160 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Rohan, This one's for you. :)

Level 1

Problem 1

Solve $5x < 53$ when x is a natural number.

Problem 2

Solve $2x + 5 > 27$ when x is a real number.

Problem 3

Solve $\frac{6(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{6x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 12 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 21.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 10 cm shorter than the longest side. If the perimeter of the triangle is atleast 87 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Pratam, This one's for you. :)

Level 1

Problem 1

Solve $5x < 33$ when x is a natural number.

Problem 2

Solve $2x + 5 > 15$ when x is a real number.

Problem 3

Solve $\frac{6(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{6x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 10 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 20.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 7 cm shorter than the longest side. If the perimeter of the triangle is atleast 80 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Preethika, This one's for you. :)

Level 1

Problem 1

Solve $5x < 29$ when x is a natural number.

Problem 2

Solve $4x + 5 > 41$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{6x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 23 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 17.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 17 cm shorter than the longest side. If the perimeter of the triangle is atleast 145 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Samarth, This one's for you. :)

Level 1

Problem 1

Solve $5x < 53$ when x is a natural number.

Problem 2

Solve $5x + 5 > 55$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 14 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 24.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 3 cm shorter than the longest side. If the perimeter of the triangle is atleast 39 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Shreesha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 36$ when x is a natural number.

Problem 2

Solve $3x + 5 > 24$ when x is a real number.

Problem 3

Solve $\frac{7(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{0x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 29 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 26.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 15 cm shorter than the longest side. If the perimeter of the triangle is atleast 121 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Siddharth , This one's for you. :)

Level 1

Problem 1

Solve $5x < 31$ when x is a natural number.

Problem 2

Solve $6x + 5 > 49$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{2x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 25 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 5 cm shorter than the longest side. If the perimeter of the triangle is atleast 45 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Simaz, This one's for you. :)

Level 1

Problem 1

Solve $5x < 38$ when x is a natural number.

Problem 2

Solve $5x + 5 > 49$ when x is a real number.

Problem 3

Solve $\frac{9(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{-1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 16 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 8 cm shorter than the longest side. If the perimeter of the triangle is atleast 73 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Subhiksha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 59$ when x is a natural number.

Problem 2

Solve $2x + 5 > 47$ when x is a real number.

Problem 3

Solve $\frac{6(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{5x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 29 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 25.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 18 cm shorter than the longest side. If the perimeter of the triangle is atleast 151 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Sudhamshu, This one's for you. :)

Level 1

Problem 1

Solve $5x < 57$ when x is a natural number.

Problem 2

Solve $3x + 5 > 14$ when x is a real number.

Problem 3

Solve $\frac{2(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{3x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 30 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 21.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 9 cm shorter than the longest side. If the perimeter of the triangle is atleast 85 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $3x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Suhan, This one's for you. :)

Level 1

Problem 1

Solve $5x < 49$ when x is a natural number.

Problem 2

Solve $4x + 5 > 19$ when x is a real number.

Problem 3

Solve $\frac{8(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{4x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 10 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 18.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 3 cm shorter than the longest side. If the perimeter of the triangle is atleast 25 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 2$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Pranav, This one's for you. :)

Level 1

Problem 1

Solve $5x < 24$ when x is a natural number.

Problem 2

Solve $6x + 5 > 53$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{5x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 19 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 27.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 11 cm shorter than the longest side. If the perimeter of the triangle is atleast 100 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Teesha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 48$ when x is a natural number.

Problem 2

Solve $5x + 5 > 60$ when x is a real number.

Problem 3

Solve $\frac{8(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{5x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 28 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 26.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 8 cm shorter than the longest side. If the perimeter of the triangle is atleast 90 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 4$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

A small set of problems

Varun, This one's for you. :)

Level 1

Problem 1

Solve $5x < 47$ when x is a natural number.

Problem 2

Solve $2x + 5 > 28$ when x is a real number.

Problem 3

Solve $\frac{5(x-3)}{4} \geq \frac{5(3-x)}{7}$.

Problem 4

Solve $\frac{1x-5}{3} - \frac{7x-3}{5} \leq \frac{3x}{4}$.

Problem 5

Mr. A obtained 30 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 26.

Problem 6

The longest side of a triangle is 4 times the shortest side and the third side is 4 cm shorter than the longest side. If the perimeter of the triangle is atleast 41 cm, find the minimum length of the shortest side.

Problem 7

Solve the inequalities $x - 2y \leq 3$, $4x + 4y \geq 12$ and $x \geq 0, y \geq 1$ graphically.

Level 2

Problem 8

Attendance of a student was 50% at the beginning of a semester. The attendance then becomes 90% at the end of that semester. Was there a point in time during that semester, that the attendance was 75%?

Linear Inequalities

You know what I mean, the answers

For Abhinava

Answer 1

$$5x < 24 \implies x < \frac{24}{5} \implies x < 4.8$$

Hence, the solution set is $\{1, 2, 3, 4\}$

Answer 2

$$4x + 5 > 52 \implies 4x > 47 \implies x > \frac{47}{4} \implies x > 1.96$$

Hence, the solution set is $(1.96, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 4

$$\begin{aligned} \frac{-2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-2x-5) - 12(7x-3) &\leq 45x \implies -40x - 100 - 84x + 36 \leq 45x \\ \implies -124x - 64 &\leq 45x \implies -124x - 45x \leq 64 \\ \implies -169x &\leq 64 \implies 169x \geq -64 \implies x \geq \frac{-64}{169} \end{aligned}$$

Hence, the solution set is $[-0.38, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{10+18+x}{3} \geq 29$

$$\therefore 28 + x \geq 87$$

$$\implies x \geq 87 - 28 \implies x \geq 59$$

Thus the minimum mark he must get is 59.

Answer 6

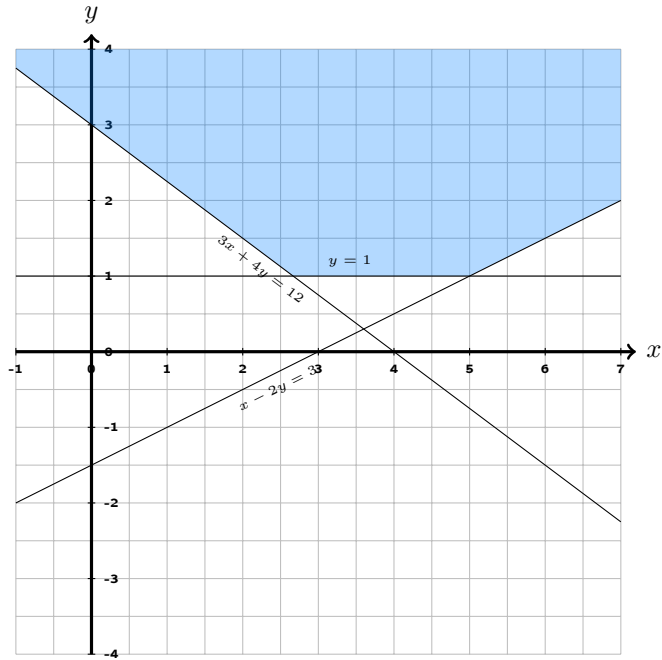
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 16$. By the given condition, the perimeter

$$x + 4x + (4x - 16) \geq 149$$

$$\implies 9x - 16 \geq 149 \implies 9x \geq 165$$

$$\implies x \geq 18.33 \text{ Thus minimum length of the shortest side is } 18.33 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Ajith

Answer 1

$$5x < 57 \implies x < \frac{57}{5} \implies x < 11.4$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$2x + 5 > 30 \implies 2x > 25 \implies x > \frac{25}{2} \implies x > 0.44$$

Hence, the solution set is $(0.44, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 4

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \end{aligned}$$

Hence, the solution set is $[-7.11, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{22+18+x}{3} \geq 18$

$$\therefore 40 + x \geq 54$$

$$\implies x \geq 54 - 40 \implies x \geq 14$$

Thus the minimum mark he must get is 14.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 14$. By the given condition, the perimeter

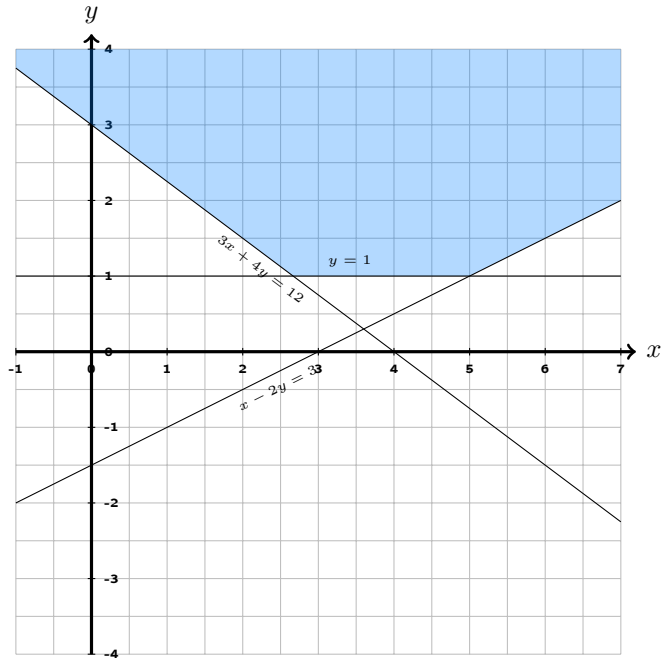
$$x + 4x + (4x - 14) \geq 140$$

$$\implies 9x - 14 \geq 140 \implies 9x \geq 154$$

$$\implies x \geq 17.11$$

Thus minimum length of the shortest side is 17.11 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Aaron

Answer 1

$$5x < 33 \implies x < \frac{33}{5} \implies x < 6.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6\}$

Answer 2

$$2x + 5 > 17 \implies 2x > 12 \implies x > \frac{12}{2} \implies x > 0.36$$

Hence, the solution set is $(0.36, \infty)$

Answer 3

$$\begin{aligned} \frac{10(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 70(x-3) \geq 20(3-x) \implies 70x - 210 \geq 60 - 20x \\ \implies 90x &\geq -150 \implies x \geq \frac{-150}{90} \implies x \geq -1.67. \text{ Hence, the solution set is } \\ &[-1.67, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{0x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(0x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(0x-5) - 12(7x-3) &\leq 45x \implies 0x - 100 - 84x + 36 \leq 45x \\ \implies -84x - 64 &\leq 45x \implies -84x - 45x \leq 64 \\ \implies -129x &\leq 64 \implies 129x \geq -64 \implies x \geq \frac{-64}{129} \\ \text{Hence, the solution set is } &[-0.50, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{21+18+x}{3} \geq 30$

$$\therefore 39 + x \geq 90$$

$$\implies x \geq 90 - 39 \implies x \geq 51$$

Thus the minimum mark he must get is 51.

Answer 6

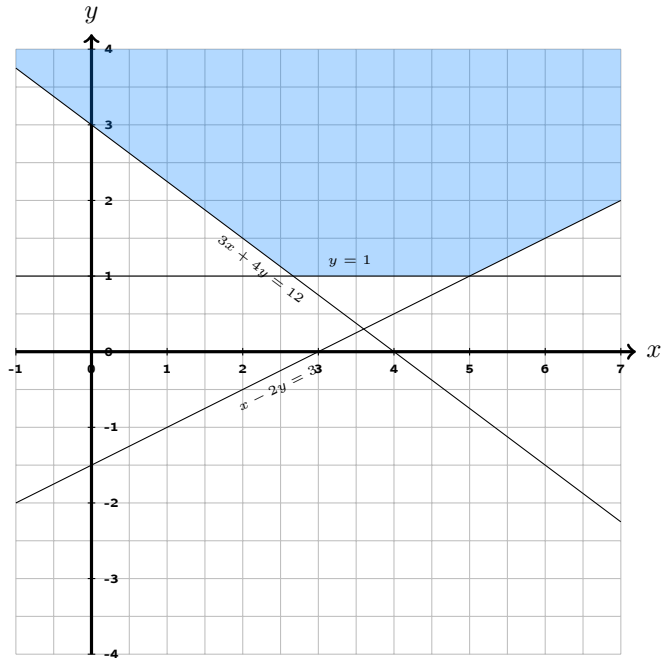
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 9$. By the given condition, the perimeter

$$x + 4x + (4x - 9) \geq 72$$

$$\implies 9x - 9 \geq 72 \implies 9x \geq 81$$

$$\implies x \geq 9.00 \text{ Thus minimum length of the shortest side is 9.00 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Aysha

Answer 1

$$5x < 48 \implies x < \frac{48}{5} \implies x < 9.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

Answer 2

$$6x + 5 > 49 \implies 6x > 44 \implies x > \frac{44}{6} \implies x > 0.92$$

Hence, the solution set is $(0.92, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \end{aligned}$$

Hence, the solution set is $[-0.43, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{26+18+x}{3} \geq 18$

$$\therefore 44 + x \geq 54$$

$$\implies x \geq 54 - 44 \implies x \geq 10$$

Thus the minimum mark he must get is 10.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 13$. By the given condition, the perimeter

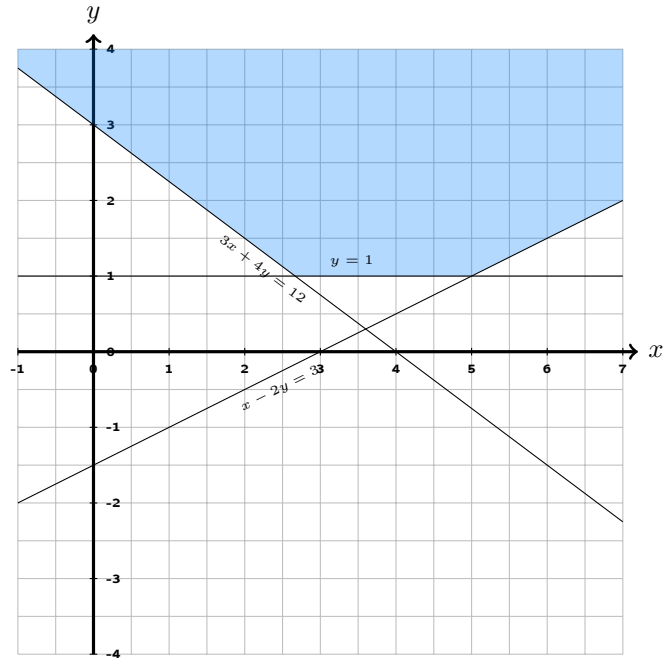
$$x + 4x + (4x - 13) \geq 108$$

$$\implies 9x - 13 \geq 108 \implies 9x \geq 121$$

$$\implies x \geq 13.44$$

Thus minimum length of the shortest side is 13.44 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Chinmay

Answer 1

$$5x < 59 \implies x < \frac{59}{5} \implies x < 11.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$4x + 5 > 29 \implies 4x > 24 \implies x > \frac{24}{4} \implies x > 0.41$$

Hence, the solution set is $(0.41, \infty)$

Answer 3

$$\begin{aligned} \frac{3(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 21(x-3) \geq 20(3-x) \implies 21x - 63 \geq 60 - 20x \\ \implies 41x &\geq -3 \implies x \geq \frac{-3}{41} \implies x \geq -0.07. \end{aligned}$$

Hence, the solution set is $[-0.07, \infty)$

Answer 4

$$\begin{aligned} \frac{-2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-2x-5) - 12(7x-3) &\leq 45x \implies -40x - 100 - 84x + 36 \leq 45x \\ \implies -124x - 64 &\leq 45x \implies -124x - 45x \leq 64 \\ \implies -169x &\leq 64 \implies 169x \geq -64 \implies x \geq \frac{-64}{169} \end{aligned}$$

Hence, the solution set is $[-0.38, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{18+18+x}{3} \geq 17$

$$\therefore 36 + x \geq 51$$

$$\implies x \geq 51 - 36 \implies x \geq 15$$

Thus the minimum mark he must get is 15.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 4$. By the given condition, the perimeter

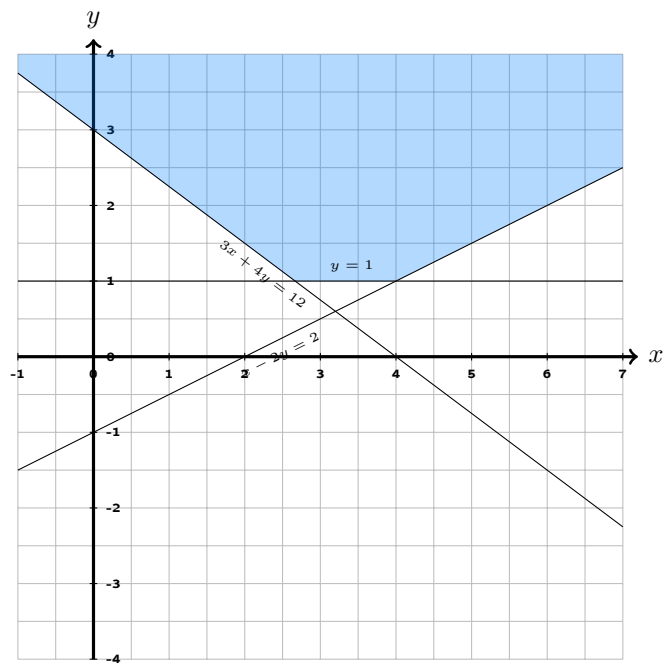
$$x + 4x + (4x - 4) \geq 52$$

$$\implies 9x - 4 \geq 52 \implies 9x \geq 56$$

$$\implies x \geq 6.22$$

Thus minimum length of the shortest side is 6.22 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Clive

Answer 1

$$5x < 41 \implies x < \frac{41}{5} \implies x < 8.2$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8\}$

Answer 2

$$3x + 5 > 44 \implies 3x > 39 \implies x > \frac{39}{3} \implies x > 0.95$$

Hence, the solution set is $(0.95, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \end{aligned}$$

Hence, the solution set is $[-0.82, \infty)$

Answer 4

$$\begin{aligned} \frac{4x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(4x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(4x-5) - 12(7x-3) &\leq 45x \implies 80x - 100 - 84x + 36 \leq 45x \\ \implies -4x - 64 &\leq 45x \implies -4x - 45x \leq 64 \\ \implies -49x &\leq 64 \implies 49x \geq -64 \implies x \geq \frac{-64}{49} \end{aligned}$$

Hence, the solution set is $[-1.31, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{20+18+x}{3} \geq 18$

$$\therefore 38 + x \geq 54$$

$$\implies x \geq 54 - 38 \implies x \geq 16$$

Thus the minimum mark he must get is 16.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

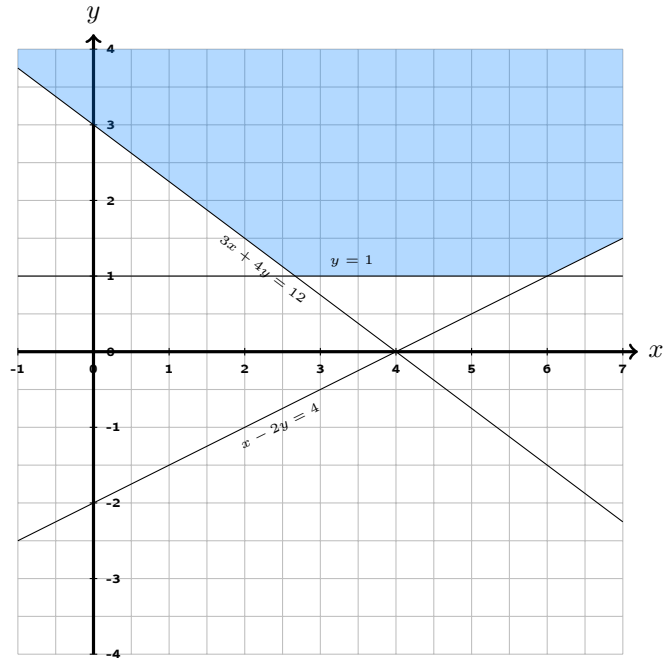
$$x + 4x + (4x - 20) \geq 161$$

$$\implies 9x - 20 \geq 161 \implies 9x \geq 181$$

$$\implies x \geq 20.11$$

Thus minimum length of the shortest side is 20.11 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Devagnik

Answer 1

$$5x < 34 \implies x < \frac{34}{5} \implies x < 6.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6\}$

Answer 2

$$5x + 5 > 24 \implies 5x > 19 \implies x > \frac{19}{5} \implies x > 0.56$$

Hence, the solution set is $(0.56, \infty)$

Answer 3

$$\begin{aligned} \frac{3(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 21(x-3) \geq 20(3-x) \implies 21x - 63 \geq 60 - 20x \\ \implies 41x &\geq -3 \implies x \geq \frac{-3}{41} \implies x \geq -0.07. \end{aligned}$$

Hence, the solution set is $[-0.07, \infty)$

Answer 4

$$\begin{aligned} \frac{4x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(4x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(4x-5) - 12(7x-3) &\leq 45x \implies 80x - 100 - 84x + 36 \leq 45x \\ \implies -4x - 64 &\leq 45x \implies -4x - 45x \leq 64 \\ \implies -49x &\leq 64 \implies 49x \geq -64 \implies x \geq \frac{-64}{49} \end{aligned}$$

Hence, the solution set is $[-1.31, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{22+18+x}{3} \geq 30$

$$\therefore 40 + x \geq 90$$

$$\implies x \geq 90 - 40 \implies x \geq 50$$

Thus the minimum mark he must get is 50.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 8$. By the given condition, the perimeter

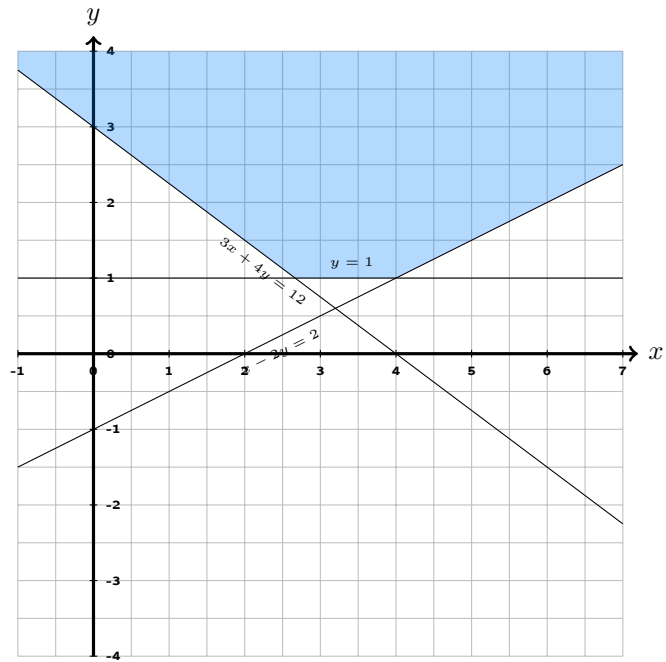
$$x + 4x + (4x - 8) \geq 92$$

$$\implies 9x - 8 \geq 92 \implies 9x \geq 100$$

$$\implies x \geq 11.11$$

Thus minimum length of the shortest side is 11.11 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Drishya

Answer 1

$$5x < 59 \implies x < \frac{59}{5} \implies x < 11.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$2x + 5 > 14 \implies 2x > 9 \implies x > \frac{9}{2} \implies x > 0.15$$

Hence, the solution set is $(0.15, \infty)$

Answer 3

$$\begin{aligned} \frac{3(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 21(x-3) \geq 20(3-x) \implies 21x - 63 \geq 60 - 20x \\ \implies 41x &\geq -3 \implies x \geq \frac{-3}{41} \implies x \geq -0.07. \text{ Hence, the solution set is } \\ &[-0.07, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \\ \text{Hence, the solution set is } &[-0.43, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{28+18+x}{3} \geq 27$

$$\therefore 46 + x \geq 81$$

$$\implies x \geq 81 - 46 \implies x \geq 35$$

Thus the minimum mark he must get is 35.

Answer 6

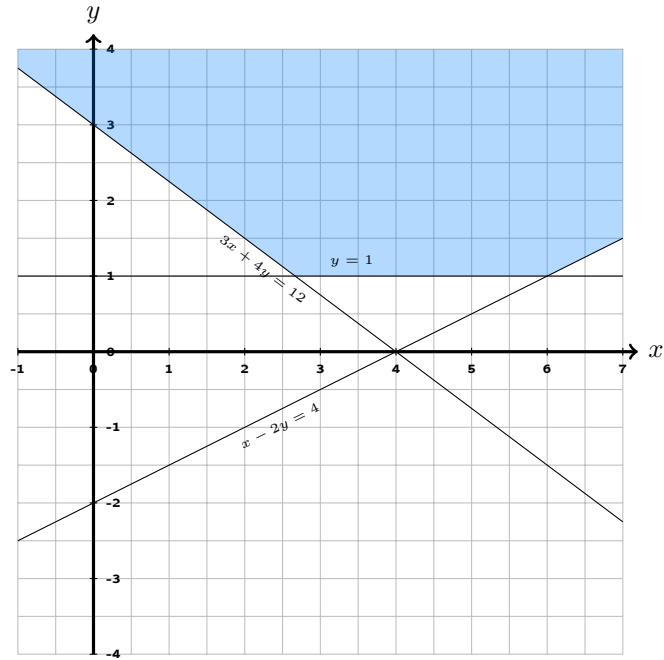
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

$$x + 4x + (4x - 18) \geq 151$$

$$\implies 9x - 18 \geq 151 \implies 9x \geq 169$$

$$\implies x \geq 18.78 \text{ Thus minimum length of the shortest side is } 18.78 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Eesh

Answer 1

$$5x < 23 \implies x < \frac{23}{5} \implies x < 4.6$$

Hence, the solution set is $\{1, 2, 3, 4\}$

Answer 2

$$4x + 5 > 27 \implies 4x > 22 \implies x > \frac{22}{4} \implies x > 0.96$$

Hence, the solution set is $(0.96, \infty)$

Answer 3

$$\begin{aligned} \frac{7(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 49(x-3) \geq 20(3-x) \implies 49x - 147 \geq 60 - 20x \\ \implies 69x &\geq -87 \implies x \geq \frac{-87}{69} \implies x \geq -1.26. \end{aligned}$$

Hence, the solution set is $[-1.26, \infty)$

Answer 4

$$\begin{aligned} \frac{1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(1x-5) - 12(7x-3) &\leq 45x \implies 20x - 100 - 84x + 36 \leq 45x \\ \implies -64x - 64 &\leq 45x \implies -64x - 45x \leq 64 \\ \implies -109x &\leq 64 \implies 109x \geq -64 \implies x \geq \frac{-64}{109} \end{aligned}$$

Hence, the solution set is $[-0.59, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{26+18+x}{3} \geq 27$

$$\therefore 44 + x \geq 81$$

$$\implies x \geq 81 - 44 \implies x \geq 37$$

Thus the minimum mark he must get is 37.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 13$. By the given condition, the perimeter

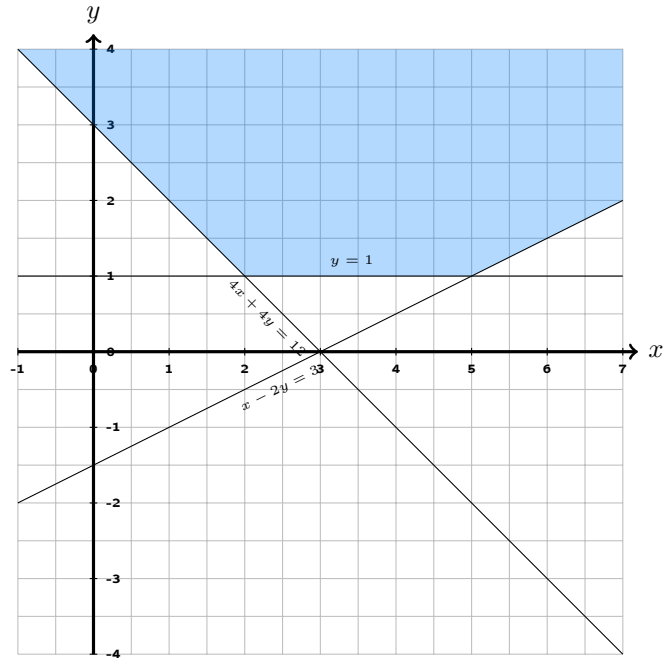
$$x + 4x + (4x - 13) \geq 108$$

$$\implies 9x - 13 \geq 108 \implies 9x \geq 121$$

$$\implies x \geq 13.44$$

Thus minimum length of the shortest side is 13.44 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Fahima

Answer 1

$$5x < 51 \implies x < \frac{51}{5} \implies x < 10.2$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Answer 2

$$5x + 5 > 59 \implies 5x > 54 \implies x > \frac{54}{5} \implies x > 1.06$$

Hence, the solution set is $(1.06, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 4

$$\begin{aligned} \frac{2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(2x-5) - 12(7x-3) &\leq 45x \implies 40x - 100 - 84x + 36 \leq 45x \\ \implies -44x - 64 &\leq 45x \implies -44x - 45x \leq 64 \\ \implies -89x &\leq 64 \implies 89x \geq -64 \implies x \geq \frac{-64}{89} \end{aligned}$$

Hence, the solution set is $[-0.72, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{27+18+x}{3} \geq 30$

$$\therefore 45 + x \geq 90$$

$$\implies x \geq 90 - 45 \implies x \geq 45$$

Thus the minimum mark he must get is 45.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 6$. By the given condition, the perimeter

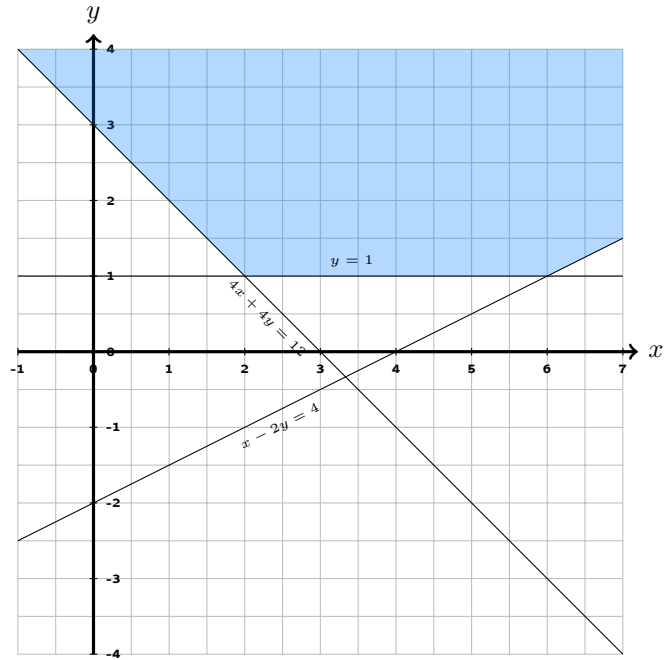
$$x + 4x + (4x - 6) \geq 56$$

$$\implies 9x - 6 \geq 56 \implies 9x \geq 62$$

$$\implies x \geq 6.89$$

Thus minimum length of the shortest side is 6.89 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Goutam

Answer 1

$$5x < 35 \implies x < \frac{35}{5} \implies x < 7.0$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7\}$

Answer 2

$$2x + 5 > 43 \implies 2x > 38 \implies x > \frac{38}{2} \implies x > 1.09$$

Hence, the solution set is $(1.09, \infty)$

Answer 3

$$\begin{aligned} \frac{8(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 56(x-3) \geq 20(3-x) \implies 56x - 168 \geq 60 - 20x \\ \implies 76x &\geq -108 \implies x \geq \frac{-108}{76} \implies x \geq -1.42. \text{ Hence, the solution set is } \\ &[-1.42, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(1x-5) - 12(7x-3) &\leq 45x \implies 20x - 100 - 84x + 36 \leq 45x \\ \implies -64x - 64 &\leq 45x \implies -64x - 45x \leq 64 \\ \implies -109x &\leq 64 \implies 109x \geq -64 \implies x \geq \frac{-64}{109} \\ \text{Hence, the solution set is } &[-0.59, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{22+18+x}{3} \geq 27$

$$\therefore 40 + x \geq 81$$

$$\implies x \geq 81 - 40 \implies x \geq 41$$

Thus the minimum mark he must get is 41.

Answer 6

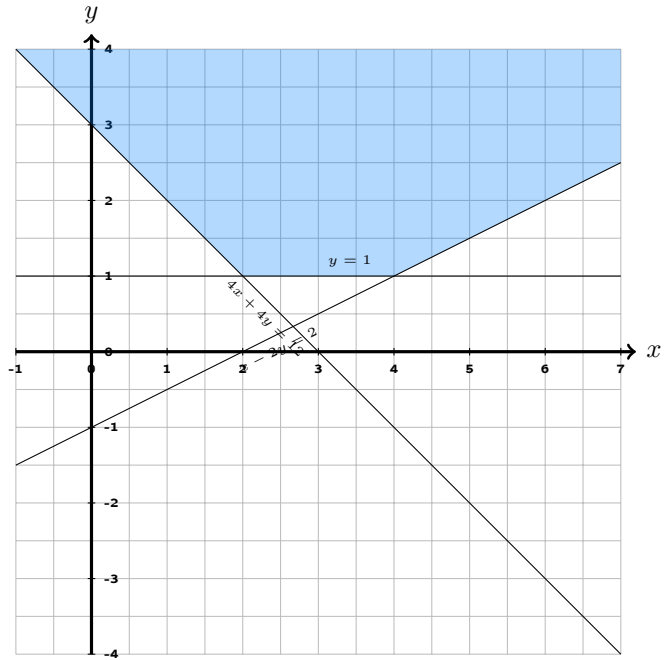
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

$$x + 4x + (4x - 20) \geq 190$$

$$\implies 9x - 20 \geq 190 \implies 9x \geq 210$$

$$\implies x \geq 23.33 \text{ Thus minimum length of the shortest side is } 23.33 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Gurupreeth

Answer 1

$$5x < 57 \implies x < \frac{57}{5} \implies x < 11.4$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$5x + 5 > 16 \implies 5x > 11 \implies x > \frac{11}{5} \implies x > 0.19$$

Hence, the solution set is $(0.19, \infty)$

Answer 3

$$\begin{aligned} \frac{10(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 70(x-3) \geq 20(3-x) \implies 70x - 210 \geq 60 - 20x \\ \implies 90x &\geq -150 \implies x \geq \frac{-150}{90} \implies x \geq -1.67. \end{aligned}$$

Hence, the solution set is $[-1.67, \infty)$

Answer 4

$$\begin{aligned} \frac{-2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-2x-5) - 12(7x-3) &\leq 45x \implies -40x - 100 - 84x + 36 \leq 45x \\ \implies -124x - 64 &\leq 45x \implies -124x - 45x \leq 64 \\ \implies -169x &\leq 64 \implies 169x \geq -64 \implies x \geq \frac{-64}{169} \end{aligned}$$

Hence, the solution set is $[-0.38, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{17+18+x}{3} \geq 29$

$$\therefore 35 + x \geq 87$$

$$\implies x \geq 87 - 35 \implies x \geq 52$$

Thus the minimum mark he must get is 52.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

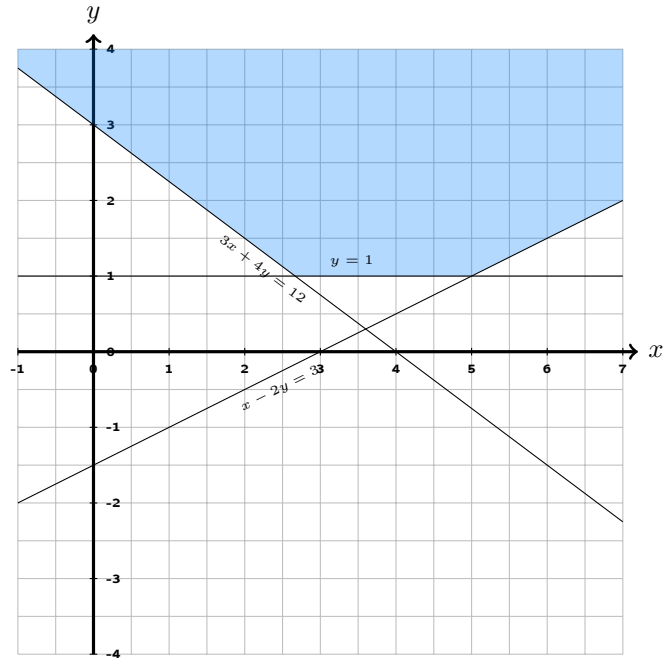
$$x + 4x + (4x - 20) \geq 160$$

$$\implies 9x - 20 \geq 160 \implies 9x \geq 180$$

$$\implies x \geq 20.00$$

Thus minimum length of the shortest side is 20.00 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Haleema

Answer 1

$$5x < 43 \implies x < \frac{43}{5} \implies x < 8.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8\}$

Answer 2

$$4x + 5 > 38 \implies 4x > 33 \implies x > \frac{33}{4} \implies x > 0.77$$

Hence, the solution set is $(0.77, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 4

$$\begin{aligned} \frac{-2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-2x-5) - 12(7x-3) &\leq 45x \implies -40x - 100 - 84x + 36 \leq 45x \\ \implies -124x - 64 &\leq 45x \implies -124x - 45x \leq 64 \\ \implies -169x &\leq 64 \implies 169x \geq -64 \implies x \geq \frac{-64}{169} \end{aligned}$$

Hence, the solution set is $[-0.38, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{28+18+x}{3} \geq 20$

$$\therefore 46 + x \geq 60$$

$$\implies x \geq 60 - 46 \implies x \geq 14$$

Thus the minimum mark he must get is 14.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 6$. By the given condition, the perimeter

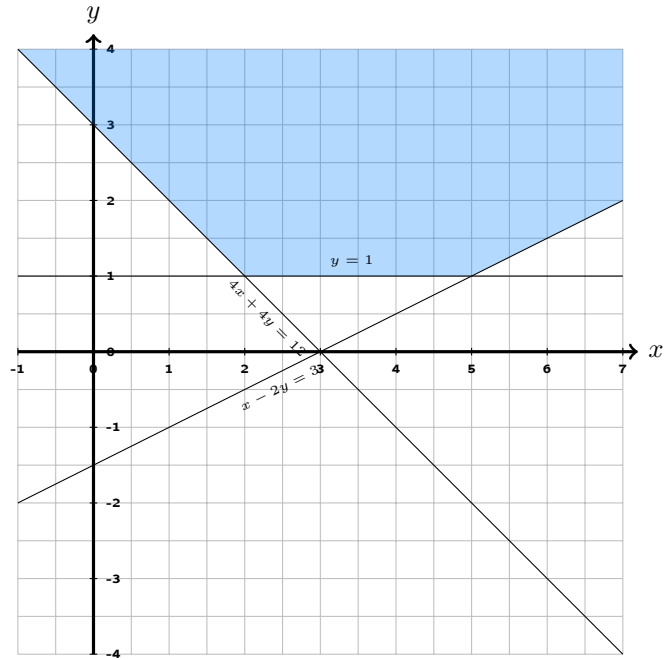
$$x + 4x + (4x - 6) \geq 52$$

$$\implies 9x - 6 \geq 52 \implies 9x \geq 58$$

$$\implies x \geq 6.44$$

Thus minimum length of the shortest side is 6.44 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Jehan

Answer 1

$$5x < 52 \implies x < \frac{52}{5} \implies x < 10.4$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Answer 2

$$5x + 5 > 22 \implies 5x > 17 \implies x > \frac{17}{5} \implies x > 0.33$$

Hence, the solution set is $(0.33, \infty)$

Answer 3

$$\begin{aligned} \frac{2(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 14(x-3) \geq 20(3-x) \implies 14x - 42 \geq 60 - 20x \\ \implies 34x &\geq 102 \implies x \geq \frac{102}{34} \implies x \geq 3. \text{ Hence, the solution set is } [3, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(1x-5) - 12(7x-3) &\leq 45x \implies 20x - 100 - 84x + 36 \leq 45x \\ \implies -64x - 64 &\leq 45x \implies -64x - 45x \leq 64 \\ \implies -109x &\leq 64 \implies 109x \geq -64 \implies x \geq \frac{-64}{109} \\ \text{Hence, the solution set is } [-0.59, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{14+18+x}{3} \geq 26$

$$\therefore 32 + x \geq 78$$

$$\implies x \geq 78 - 32 \implies x \geq 46$$

Thus the minimum mark he must get is 46.

Answer 6

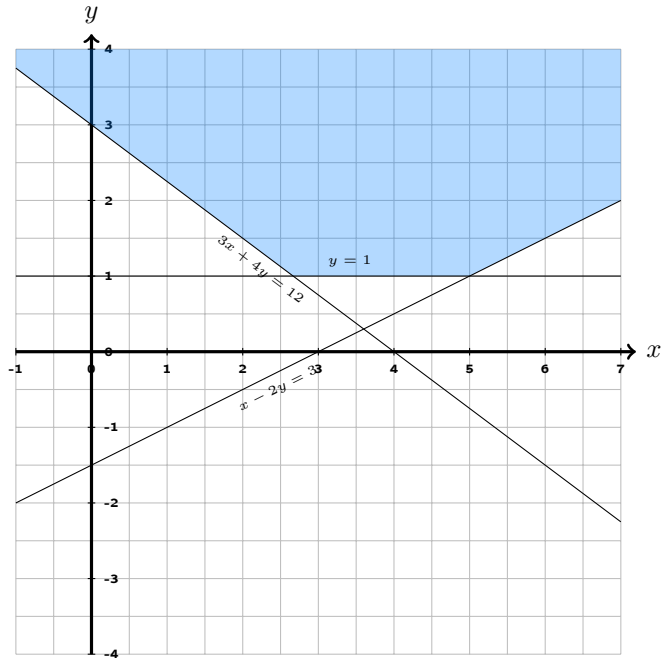
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 16$. By the given condition, the perimeter

$$x + 4x + (4x - 16) \geq 135$$

$$\implies 9x - 16 \geq 135 \implies 9x \geq 151$$

$$\implies x \geq 16.78 \text{ Thus minimum length of the shortest side is } 16.78 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Joseph

Answer 1

$$5x < 20 \implies x < \frac{20}{5} \implies x < 4.0$$

Hence, the solution set is $\{1, 2, 3, 4\}$

Answer 2

$$6x + 5 > 41 \implies 6x > 36 \implies x > \frac{36}{6} \implies x > 1.80$$

Hence, the solution set is $(1.80, \infty)$

Answer 3

$$\begin{aligned} \frac{7(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 49(x-3) \geq 20(3-x) \implies 49x - 147 \geq 60 - 20x \\ \implies 69x &\geq -87 \implies x \geq \frac{-87}{69} \implies x \geq -1.26. \end{aligned}$$

Hence, the solution set is $[-1.26, \infty)$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \end{aligned}$$

Hence, the solution set is $[-0.43, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{29+18+x}{3} \geq 23$

$$\therefore 47 + x \geq 69$$

$$\implies x \geq 69 - 47 \implies x \geq 22$$

Thus the minimum mark he must get is 22.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

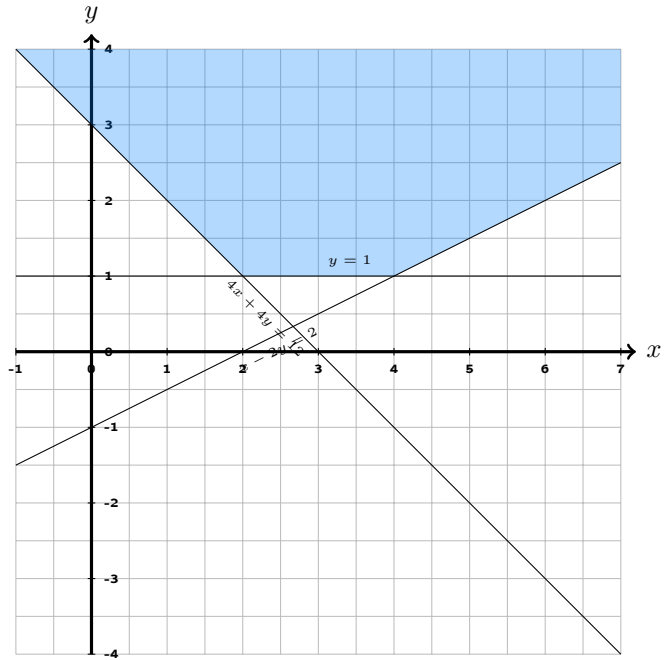
$$x + 4x + (4x - 18) \geq 156$$

$$\implies 9x - 18 \geq 156 \implies 9x \geq 174$$

$$\implies x \geq 19.33$$

Thus minimum length of the shortest side is 19.33 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Kaneeksha

Answer 1

$$5x < 20 \implies x < \frac{20}{5} \implies x < 4.0$$

Hence, the solution set is $\{1, 2, 3, 4\}$

Answer 2

$$2x + 5 > 13 \implies 2x > 8 \implies x > \frac{8}{2} \implies x > 0.40$$

Hence, the solution set is $(0.40, \infty)$

Answer 3

$$\begin{aligned} \frac{9(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 63(x-3) \geq 20(3-x) \implies 63x - 189 \geq 60 - 20x \\ \implies 83x &\geq -129 \implies x \geq \frac{-129}{83} \implies x \geq -1.55. \end{aligned}$$

Hence, the solution set is $[-1.55, \infty)$

Answer 4

$$\begin{aligned} \frac{3x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(3x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(3x-5) - 12(7x-3) &\leq 45x \implies 60x - 100 - 84x + 36 \leq 45x \\ \implies -24x - 64 &\leq 45x \implies -24x - 45x \leq 64 \\ \implies -69x &\leq 64 \implies 69x \geq -64 \implies x \geq \frac{-64}{69} \end{aligned}$$

Hence, the solution set is $[-0.93, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{29+18+x}{3} \geq 25$

$$\therefore 47 + x \geq 75$$

$$\implies x \geq 75 - 47 \implies x \geq 28$$

Thus the minimum mark he must get is 28.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 11$. By the given condition, the perimeter

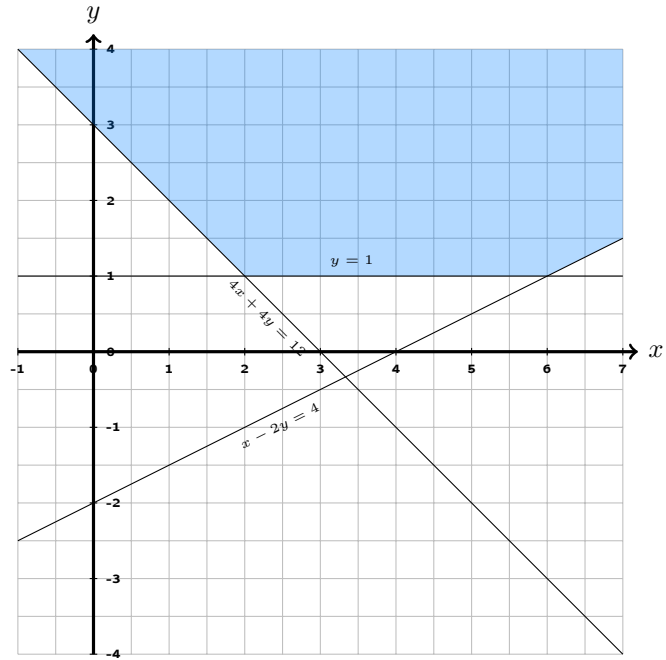
$$x + 4x + (4x - 11) \geq 92$$

$$\implies 9x - 11 \geq 92 \implies 9x \geq 103$$

$$\implies x \geq 11.44$$

Thus minimum length of the shortest side is 11.44 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Likhith

Answer 1

$$5x < 34 \implies x < \frac{34}{5} \implies x < 6.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6\}$

Answer 2

$$5x + 5 > 37 \implies 5x > 32 \implies x > \frac{32}{5} \implies x > 0.94$$

Hence, the solution set is $(0.94, \infty)$

Answer 3

$$\begin{aligned} \frac{4(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 28(x-3) \geq 20(3-x) \implies 28x - 84 \geq 60 - 20x \\ \implies 48x &\geq -24 \implies x \geq \frac{-24}{48} \implies x \geq -0.50. \text{ Hence, the solution set is } [-0.50, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \\ \text{Hence, the solution set is } [-0.43, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{25+18+x}{3} \geq 28$

$$\therefore 43 + x \geq 84$$

$$\implies x \geq 84 - 43 \implies x \geq 41$$

Thus the minimum mark he must get is 41.

Answer 6

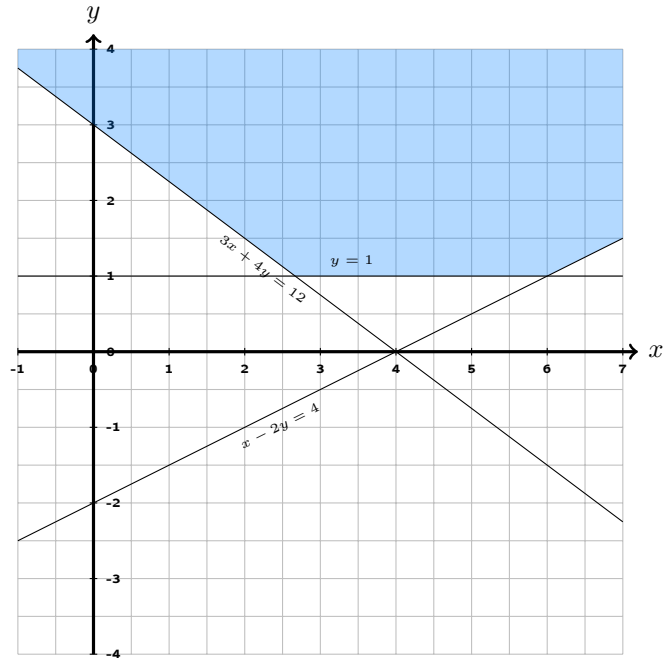
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 19$. By the given condition, the perimeter

$$x + 4x + (4x - 19) \geq 181$$

$$\implies 9x - 19 \geq 181 \implies 9x \geq 200$$

$$\implies x \geq 22.22 \text{ Thus minimum length of the shortest side is } 22.22 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Lloyd

Answer 1

$$5x < 46 \implies x < \frac{46}{5} \implies x < 9.2$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

Answer 2

$$4x + 5 > 58 \implies 4x > 53 \implies x > \frac{53}{4} \implies x > 1.15$$

Hence, the solution set is $(1.15, \infty)$

Answer 3

$$\begin{aligned} \frac{3(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 21(x-3) \geq 20(3-x) \implies 21x - 63 \geq 60 - 20x \\ \implies 41x &\geq -3 \implies x \geq \frac{-3}{41} \implies x \geq -0.07. \end{aligned}$$

Hence, the solution set is $[-0.07, \infty)$

Answer 4

$$\begin{aligned} \frac{2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(2x-5) - 12(7x-3) &\leq 45x \implies 40x - 100 - 84x + 36 \leq 45x \\ \implies -44x - 64 &\leq 45x \implies -44x - 45x \leq 64 \\ \implies -89x &\leq 64 \implies 89x \geq -64 \implies x \geq \frac{-64}{89} \end{aligned}$$

Hence, the solution set is $[-0.72, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{18+18+x}{3} \geq 24$

$$\therefore 36 + x \geq 72$$

$$\implies x \geq 72 - 36 \implies x \geq 36$$

Thus the minimum mark he must get is 36.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

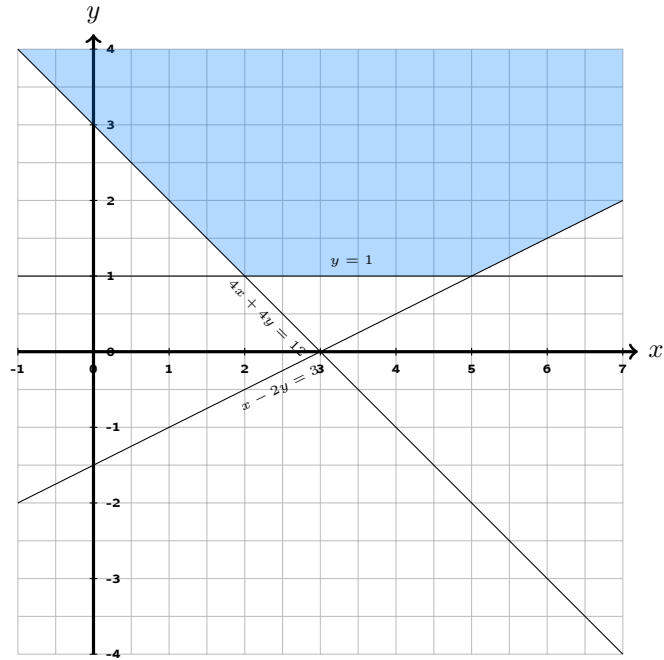
$$x + 4x + (4x - 20) \geq 183$$

$$\implies 9x - 20 \geq 183 \implies 9x \geq 203$$

$$\implies x \geq 22.56$$

Thus minimum length of the shortest side is 22.56 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Mahzarin

Answer 1

$$5x < 29 \implies x < \frac{29}{5} \implies x < 5.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5\}$

Answer 2

$$6x + 5 > 23 \implies 6x > 18 \implies x > \frac{18}{6} \implies x > 0.62$$

Hence, the solution set is $(0.62, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \text{ Hence, the solution set is } \\ &[-0.82, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \\ \text{Hence, the solution set is } &[-0.43, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{13+18+x}{3} \geq 27$

$$\therefore 31 + x \geq 81$$

$$\implies x \geq 81 - 31 \implies x \geq 50$$

Thus the minimum mark he must get is 50.

Answer 6

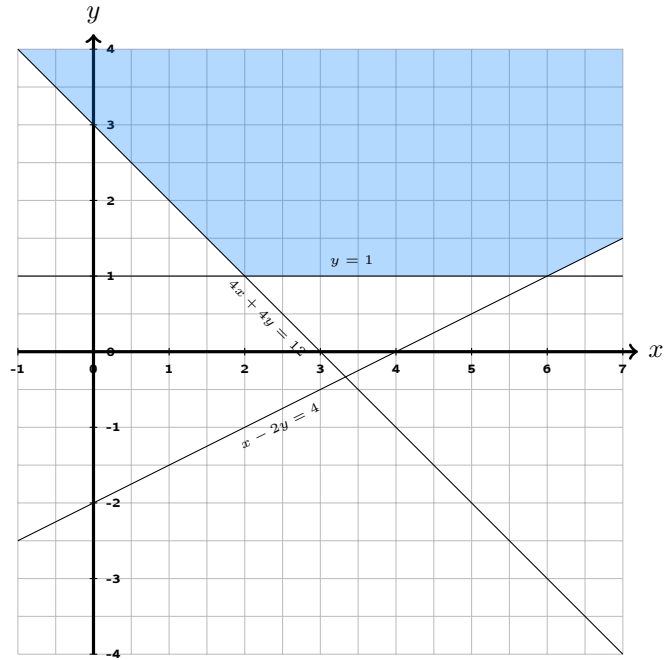
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 15$. By the given condition, the perimeter

$$x + 4x + (4x - 15) \geq 123$$

$$\implies 9x - 15 \geq 123 \implies 9x \geq 138$$

$$\implies x \geq 15.33 \text{ Thus minimum length of the shortest side is } 15.33 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Mesha

Answer 1

$$5x < 40 \implies x < \frac{40}{5} \implies x < 8.0$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8\}$

Answer 2

$$3x + 5 > 16 \implies 3x > 11 \implies x > \frac{11}{3} \implies x > 0.28$$

Hence, the solution set is $(0.28, \infty)$

Answer 3

$$\begin{aligned} \frac{8(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 56(x-3) \geq 20(3-x) \implies 56x - 168 \geq 60 - 20x \\ \implies 76x &\geq -108 \implies x \geq \frac{-108}{76} \implies x \geq -1.42. \text{ Hence, the solution set is } [-1.42, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{0x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(0x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(0x-5) - 12(7x-3) &\leq 45x \implies 0x - 100 - 84x + 36 \leq 45x \\ \implies -84x - 64 &\leq 45x \implies -84x - 45x \leq 64 \\ \implies -129x &\leq 64 \implies 129x \geq -64 \implies x \geq \frac{-64}{129} \end{aligned}$$

Hence, the solution set is $[-0.50, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{30+18+x}{3} \geq 19$

$$\therefore 48 + x \geq 57$$

$$\implies x \geq 57 - 48 \implies x \geq 9$$

Thus the minimum mark he must get is 9.

Answer 6

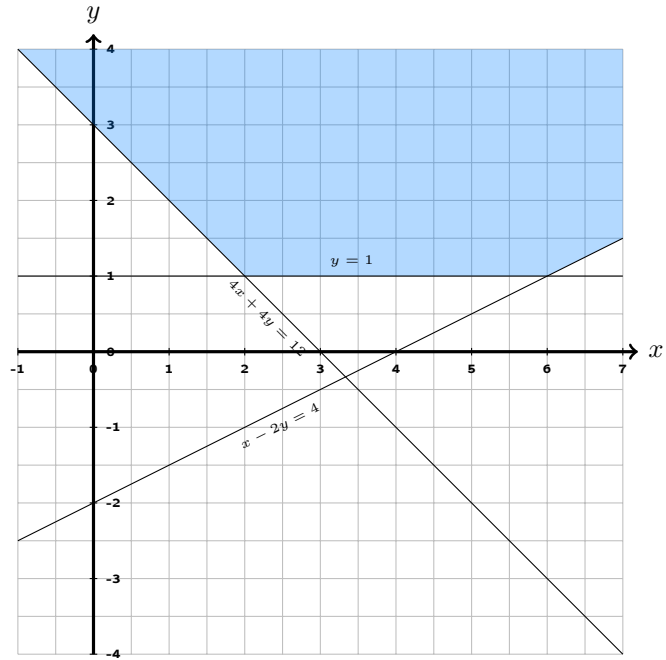
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

$$x + 4x + (4x - 20) \geq 160$$

$$\implies 9x - 20 \geq 160 \implies 9x \geq 180$$

$$\implies x \geq 20.00 \text{ Thus minimum length of the shortest side is } 20.00 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Rohan

Answer 1

$$5x < 53 \implies x < \frac{53}{5} \implies x < 10.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Answer 2

$$2x + 5 > 27 \implies 2x > 22 \implies x > \frac{22}{2} \implies x > 0.42$$

Hence, the solution set is $(0.42, \infty)$

Answer 3

$$\begin{aligned} \frac{6(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 42(x-3) \geq 20(3-x) \implies 42x - 126 \geq 60 - 20x \\ \implies 62x &\geq -66 \implies x \geq \frac{-66}{62} \implies x \geq -1.06. \end{aligned}$$

Hence, the solution set is $[-1.06, \infty)$

Answer 4

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \end{aligned}$$

Hence, the solution set is $[-7.11, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{12+18+x}{3} \geq 21$

$$\therefore 30 + x \geq 63$$

$$\implies x \geq 63 - 30 \implies x \geq 33$$

Thus the minimum mark he must get is 33.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 10$. By the given condition, the perimeter

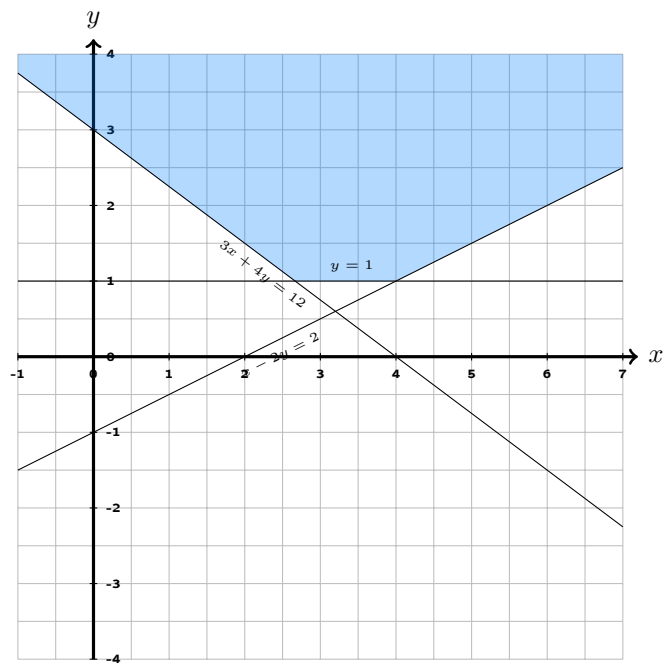
$$x + 4x + (4x - 10) \geq 87$$

$$\implies 9x - 10 \geq 87 \implies 9x \geq 97$$

$$\implies x \geq 10.78$$

Thus minimum length of the shortest side is 10.78 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Pratam

Answer 1

$$5x < 33 \implies x < \frac{33}{5} \implies x < 6.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6\}$

Answer 2

$$2x + 5 > 15 \implies 2x > 10 \implies x > \frac{10}{2} \implies x > 0.30$$

Hence, the solution set is $(0.30, \infty)$

Answer 3

$$\begin{aligned} \frac{6(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 42(x-3) \geq 20(3-x) \implies 42x - 126 \geq 60 - 20x \\ \implies 62x &\geq -66 \implies x \geq \frac{-66}{62} \implies x \geq -1.06. \end{aligned}$$

Hence, the solution set is $[-1.06, \infty)$

Answer 4

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \end{aligned}$$

Hence, the solution set is $[-7.11, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{10+18+x}{3} \geq 20$

$$\therefore 28 + x \geq 60$$

$$\implies x \geq 60 - 28 \implies x \geq 32$$

Thus the minimum mark he must get is 32.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 7$. By the given condition, the perimeter

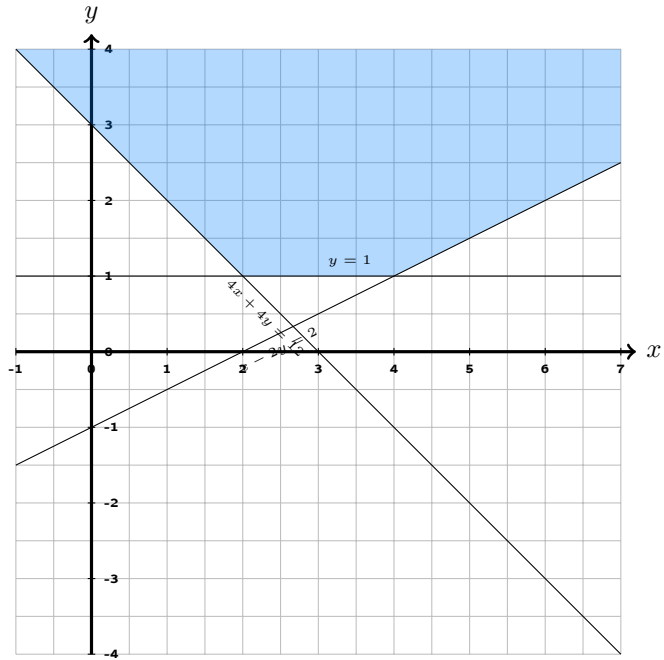
$$x + 4x + (4x - 7) \geq 80$$

$$\implies 9x - 7 \geq 80 \implies 9x \geq 87$$

$$\implies x \geq 9.67$$

Thus minimum length of the shortest side is 9.67 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Preethika

Answer 1

$$5x < 29 \implies x < \frac{29}{5} \implies x < 5.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5\}$

Answer 2

$$4x + 5 > 41 \implies 4x > 36 \implies x > \frac{36}{4} \implies x > 9$$

Hence, the solution set is $(9, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \end{aligned}$$

Hence, the solution set is $[-0.82, \infty)$

Answer 4

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \end{aligned}$$

Hence, the solution set is $[-7.11, \infty)$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{23+18+x}{3} \geq 17$

$$\therefore 41 + x \geq 51$$

$$\implies x \geq 51 - 41 \implies x \geq 10$$

Thus the minimum mark he must get is 10.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 17$. By the given condition, the perimeter

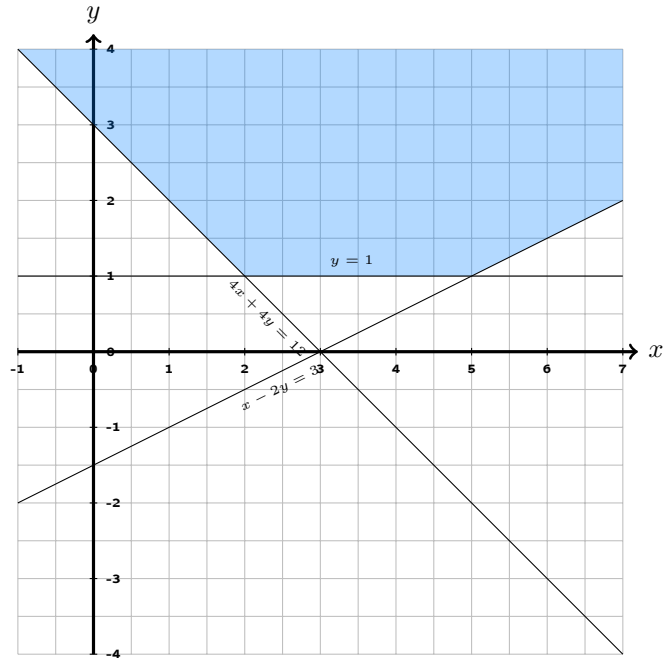
$$x + 4x + (4x - 17) \geq 145$$

$$\implies 9x - 17 \geq 145 \implies 9x \geq 162$$

$$\implies x \geq 18.00$$

Thus minimum length of the shortest side is 18.00 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Samarth

Answer 1

$$5x < 53 \implies x < \frac{53}{5} \implies x < 10.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

Answer 2

$$5x + 5 > 55 \implies 5x > 50 \implies x > \frac{50}{5} \implies x > 10$$

Hence, the solution set is $(10, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \text{ Hence, the solution set is } \\ &[-0.82, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{-2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-2x-5) - 12(7x-3) &\leq 45x \implies -40x - 100 - 84x + 36 \leq 45x \\ \implies -124x - 64 &\leq 45x \implies -124x - 45x \leq 64 \\ \implies -169x &\leq 64 \implies 169x \geq -64 \implies x \geq \frac{-64}{169} \\ \text{Hence, the solution set is } &[-0.38, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{14+18+x}{3} \geq 24$

$$\therefore 32 + x \geq 72$$

$$\implies x \geq 72 - 32 \implies x \geq 40$$

Thus the minimum mark he must get is 40.

Answer 6

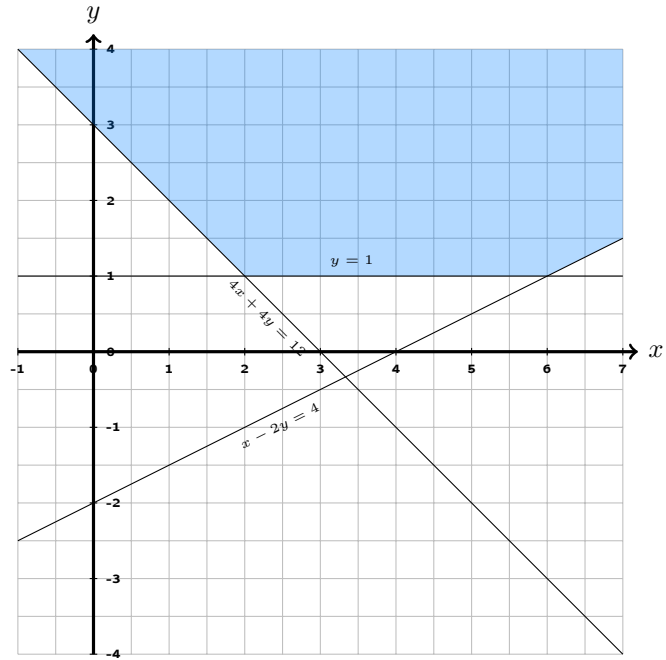
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 3$. By the given condition, the perimeter

$$x + 4x + (4x - 3) \geq 39$$

$$\implies 9x - 3 \geq 39 \implies 9x \geq 42$$

$$\implies x \geq 4.67 \text{ Thus minimum length of the shortest side is 4.67 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Shreesha

Answer 1

$$5x < 36 \implies x < \frac{36}{5} \implies x < 7.2$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7\}$

Answer 2

$$3x + 5 > 24 \implies 3x > 19 \implies x > \frac{19}{3} \implies x > 0.53$$

Hence, the solution set is $(0.53, \infty)$

Answer 3

$$\begin{aligned} \frac{7(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 49(x-3) \geq 20(3-x) \implies 49x - 147 \geq 60 - 20x \\ \implies 69x &\geq -87 \implies x \geq \frac{-87}{69} \implies x \geq -1.26. \text{ Hence, the solution set is } \\ &[-1.26, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{0x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(0x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(0x-5) - 12(7x-3) &\leq 45x \implies 0x - 100 - 84x + 36 \leq 45x \\ \implies -84x - 64 &\leq 45x \implies -84x - 45x \leq 64 \\ \implies -129x &\leq 64 \implies 129x \geq -64 \implies x \geq \frac{-64}{129} \\ \text{Hence, the solution set is } &[-0.50, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{29+18+x}{3} \geq 26$

$$\therefore 47 + x \geq 78$$

$$\implies x \geq 78 - 47 \implies x \geq 31$$

Thus the minimum mark he must get is 31.

Answer 6

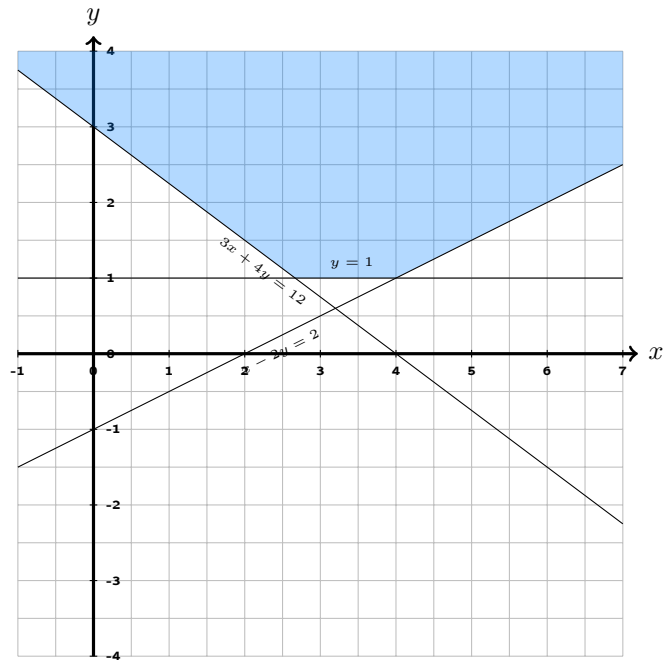
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 15$. By the given condition, the perimeter

$$x + 4x + (4x - 15) \geq 121$$

$$\implies 9x - 15 \geq 121 \implies 9x \geq 136$$

$$\implies x \geq 15.11 \text{ Thus minimum length of the shortest side is 15.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Siddharth

Answer 1

$$5x < 31 \implies x < \frac{31}{5} \implies x < 6.2$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6\}$

Answer 2

$$6x + 5 > 49 \implies 6x > 44 \implies x > \frac{44}{6} \implies x > 1.42$$

Hence, the solution set is $(1.42, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \text{ Hence, the solution set is } \\ &[-0.82, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{2x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(2x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(2x-5) - 12(7x-3) &\leq 45x \implies 40x - 100 - 84x + 36 \leq 45x \\ \implies -44x - 64 &\leq 45x \implies -44x - 45x \leq 64 \\ \implies -89x &\leq 64 \implies 89x \geq -64 \implies x \geq \frac{-64}{89} \\ \text{Hence, the solution set is } &[-0.72, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{25+18+x}{3} \geq 27$

$$\therefore 43 + x \geq 81$$

$$\implies x \geq 81 - 43 \implies x \geq 38$$

Thus the minimum mark he must get is 38.

Answer 6

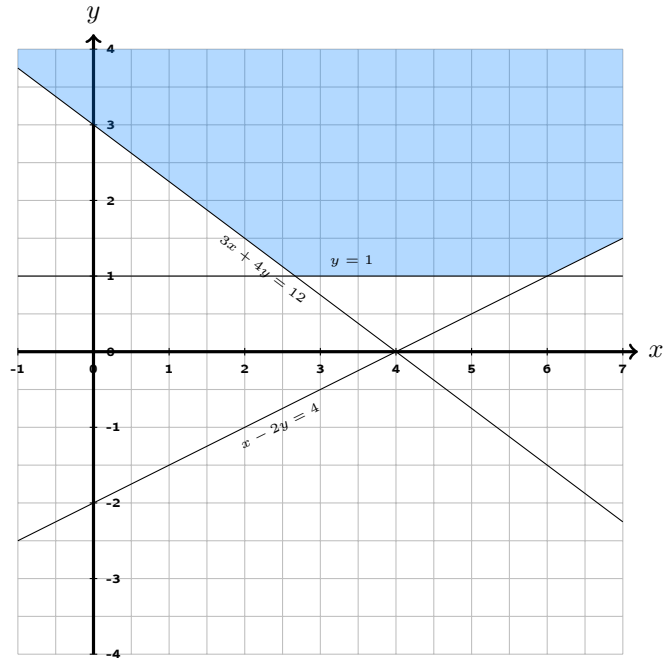
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 5$. By the given condition, the perimeter

$$x + 4x + (4x - 5) \geq 45$$

$$\implies 9x - 5 \geq 45 \implies 9x \geq 50$$

$$\implies x \geq 5.56 \text{ Thus minimum length of the shortest side is } 5.56 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Simaz

Answer 1

$$5x < 38 \implies x < \frac{38}{5} \implies x < 7.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7\}$

Answer 2

$$5x + 5 > 49 \implies 5x > 44 \implies x > \frac{44}{5} \implies x > 1.16$$

Hence, the solution set is $(1.16, \infty)$

Answer 3

$$\begin{aligned} \frac{9(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 63(x-3) \geq 20(3-x) \implies 63x - 189 \geq 60 - 20x \\ \implies 83x &\geq -129 \implies x \geq \frac{-129}{83} \implies x \geq -1.55. \text{ Hence, the solution set is } \\ &[-1.55, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{-1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(-1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(-1x-5) - 12(7x-3) &\leq 45x \implies -20x - 100 - 84x + 36 \leq 45x \\ \implies -104x - 64 &\leq 45x \implies -104x - 45x \leq 64 \\ \implies -149x &\leq 64 \implies 149x \geq -64 \implies x \geq \frac{-64}{149} \\ \text{Hence, the solution set is } &[-0.43, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{16+18+x}{3} \geq 27$

$$\therefore 34 + x \geq 81$$

$$\implies x \geq 81 - 34 \implies x \geq 47$$

Thus the minimum mark he must get is 47.

Answer 6

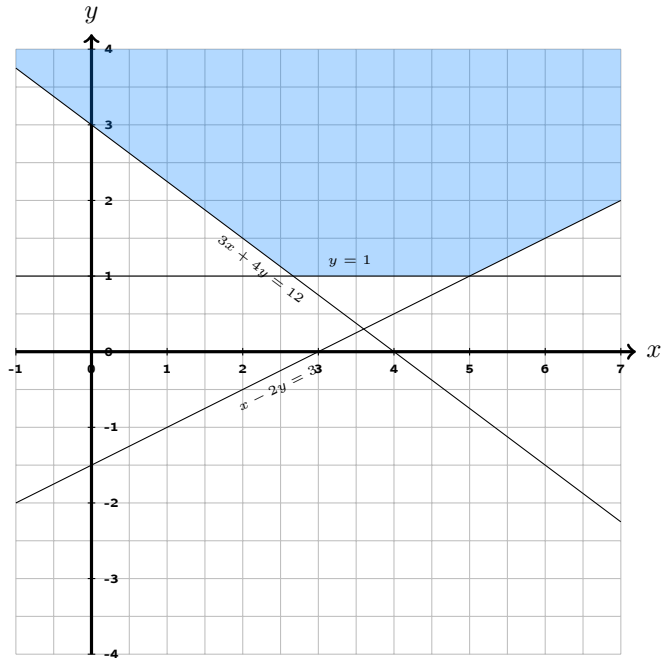
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 8$. By the given condition, the perimeter

$$x + 4x + (4x - 8) \geq 73$$

$$\implies 9x - 8 \geq 73 \implies 9x \geq 81$$

$$\implies x \geq 9.00 \text{ Thus minimum length of the shortest side is 9.00 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Subhiksha

Answer 1

$$5x < 59 \implies x < \frac{59}{5} \implies x < 11.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$2x + 5 > 47 \implies 2x > 42 \implies x > \frac{42}{2} \implies x > 0.71$$

Hence, the solution set is $(0.71, \infty)$

Answer 3

$$\begin{aligned} \frac{6(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 42(x-3) \geq 20(3-x) \implies 42x - 126 \geq 60 - 20x \\ \implies 62x &\geq -66 \implies x \geq \frac{-66}{62} \implies x \geq -1.06. \text{ Hence, the solution set is } \\ &[-1.06, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{5x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(5x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(5x-5) - 12(7x-3) &\leq 45x \implies 100x - 100 - 84x + 36 \leq 45x \\ \implies 16x - 64 &\leq 45x \implies 16x - 45x \leq 64 \\ \implies -29x &\leq 64 \implies 29x \geq -64 \implies x \geq \frac{-64}{29} \\ \text{Hence, the solution set is } &[-2.21, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{29+18+x}{3} \geq 25$

$$\therefore 47 + x \geq 75$$

$$\implies x \geq 75 - 47 \implies x \geq 28$$

Thus the minimum mark he must get is 28.

Answer 6

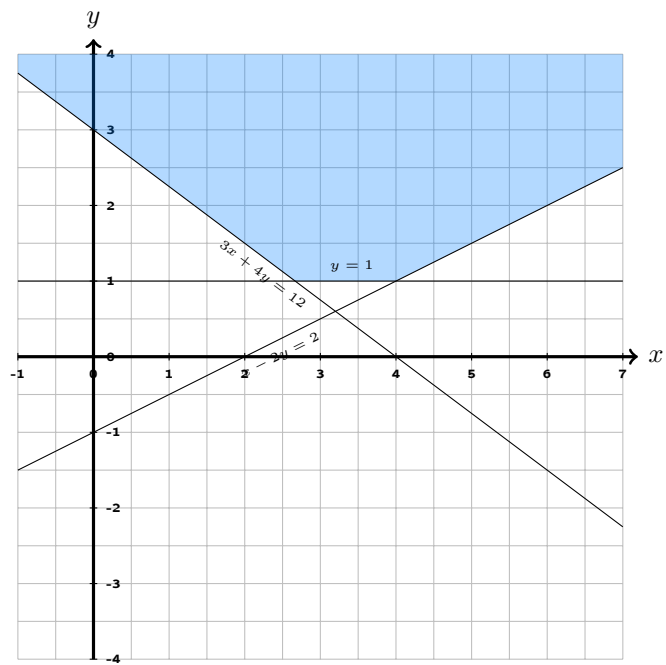
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

$$x + 4x + (4x - 18) \geq 151$$

$$\implies 9x - 18 \geq 151 \implies 9x \geq 169$$

$$\implies x \geq 18.78 \text{ Thus minimum length of the shortest side is 18.78 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Sudhamshu

Answer 1

$$5x < 57 \implies x < \frac{57}{5} \implies x < 11.4$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$

Answer 2

$$3x + 5 > 14 \implies 3x > 9 \implies x > \frac{9}{3} \implies x > 0.16$$

Hence, the solution set is $(0.16, \infty)$

Answer 3

$$\begin{aligned} \frac{2(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 14(x-3) \geq 20(3-x) \implies 14x - 42 \geq 60 - 20x \\ \implies 34x &\geq 102 \implies x \geq \frac{102}{34} \implies x \geq 3. Hence, the solution set is [3, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{3x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(3x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(3x-5) - 12(7x-3) &\leq 45x \implies 60x - 100 - 84x + 36 \leq 45x \\ \implies -24x - 64 &\leq 45x \implies -24x - 45x \leq 64 \\ \implies -69x &\leq 64 \implies 69x \geq -64 \implies x \geq \frac{-64}{69} \\ \text{Hence, the solution set is } &[-0.93, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{30+18+x}{3} \geq 21$

$$\therefore 48 + x \geq 63$$

$$\implies x \geq 63 - 48 \implies x \geq 15$$

Thus the minimum mark he must get is 15.

Answer 6

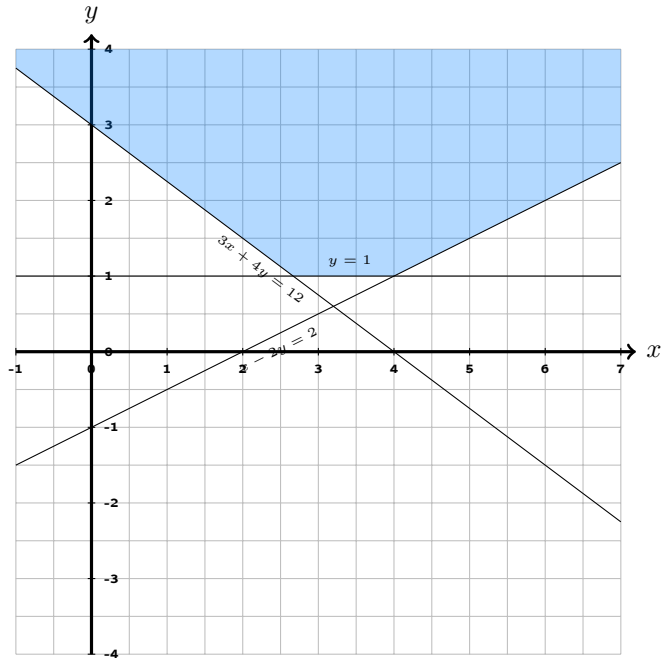
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 9$. By the given condition, the perimeter

$$x + 4x + (4x - 9) \geq 85$$

$$\implies 9x - 9 \geq 85 \implies 9x \geq 94$$

$$\implies x \geq 10.44 \text{ Thus minimum length of the shortest side is } 10.44 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Suhan

Answer 1

$$5x < 49 \implies x < \frac{49}{5} \implies x < 9.8$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

Answer 2

$$4x + 5 > 19 \implies 4x > 14 \implies x > \frac{14}{4} \implies x > 0.29$$

Hence, the solution set is $(0.29, \infty)$

Answer 3

$$\begin{aligned} \frac{8(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 56(x-3) \geq 20(3-x) \implies 56x - 168 \geq 60 - 20x \\ \implies 76x &\geq -108 \implies x \geq \frac{-108}{76} \implies x \geq -1.42. \text{ Hence, the solution set is } [-1.42, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{4x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(4x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(4x-5) - 12(7x-3) &\leq 45x \implies 80x - 100 - 84x + 36 \leq 45x \\ \implies -4x - 64 &\leq 45x \implies -4x - 45x \leq 64 \\ \implies -49x &\leq 64 \implies 49x \geq -64 \implies x \geq \frac{-64}{49} \\ \text{Hence, the solution set is } [-1.31, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{10+18+x}{3} \geq 18$

$$\therefore 28 + x \geq 54$$

$$\implies x \geq 54 - 28 \implies x \geq 26$$

Thus the minimum mark he must get is 26.

Answer 6

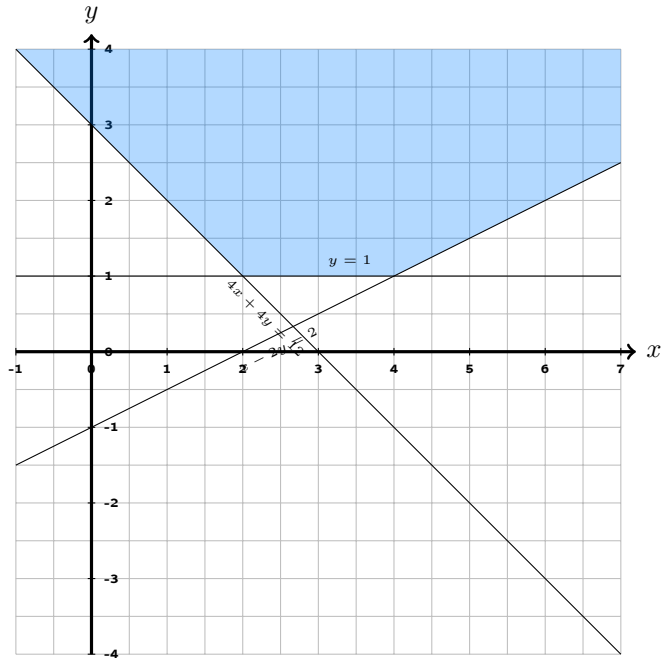
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 3$. By the given condition, the perimeter

$$x + 4x + (4x - 3) \geq 25$$

$$\implies 9x - 3 \geq 25 \implies 9x \geq 28$$

$$\implies x \geq 3.11 \text{ Thus minimum length of the shortest side is 3.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Pranav

Answer 1

$$5x < 24 \implies x < \frac{24}{5} \implies x < 4.8$$

Hence, the solution set is $\{1, 2, 3, 4\}$

Answer 2

$$6x + 5 > 53 \implies 6x > 48 \implies x > \frac{48}{6} \implies x > 2.00$$

Hence, the solution set is $(2.00, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \text{ Hence, the solution set is } [-0.82, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{5x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(5x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(5x-5) - 12(7x-3) &\leq 45x \implies 100x - 100 - 84x + 36 \leq 45x \\ \implies 16x - 64 &\leq 45x \implies 16x - 45x \leq 64 \\ \implies -29x &\leq 64 \implies 29x \geq -64 \implies x \geq \frac{-64}{29} \\ \text{Hence, the solution set is } [-2.21, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{19+18+x}{3} \geq 27$

$$\therefore 37 + x \geq 81$$

$$\implies x \geq 81 - 37 \implies x \geq 44$$

Thus the minimum mark he must get is 44.

Answer 6

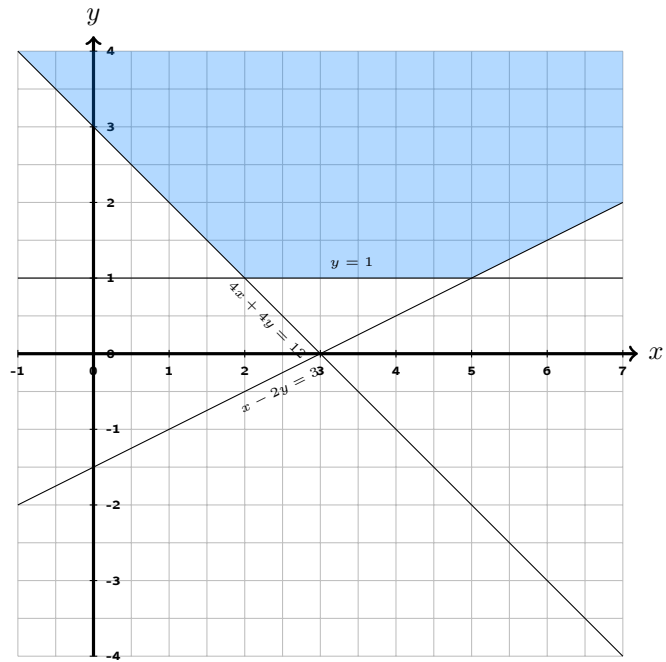
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 11$. By the given condition, the perimeter

$$x + 4x + (4x - 11) \geq 100$$

$$\implies 9x - 11 \geq 100 \implies 9x \geq 111$$

$$\implies x \geq 12.33 \text{ Thus minimum length of the shortest side is 12.33 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Teesha

Answer 1

$$5x < 48 \implies x < \frac{48}{5} \implies x < 9.6$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

Answer 2

$$5x + 5 > 60 \implies 5x > 55 \implies x > \frac{55}{5} \implies x > 1.15$$

Hence, the solution set is $(1.15, \infty)$

Answer 3

$$\begin{aligned} \frac{8(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 56(x-3) \geq 20(3-x) \implies 56x - 168 \geq 60 - 20x \\ \implies 76x &\geq -108 \implies x \geq \frac{-108}{76} \implies x \geq -1.42. \text{ Hence, the solution set is } [-1.42, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{5x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(5x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(5x-5) - 12(7x-3) &\leq 45x \implies 100x - 100 - 84x + 36 \leq 45x \\ \implies 16x - 64 &\leq 45x \implies 16x - 45x \leq 64 \\ \implies -29x &\leq 64 \implies 29x \geq -64 \implies x \geq \frac{-64}{29} \\ \text{Hence, the solution set is } [-2.21, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{28+18+x}{3} \geq 26$

$$\therefore 46 + x \geq 78$$

$$\implies x \geq 78 - 46 \implies x \geq 32$$

Thus the minimum mark he must get is 32.

Answer 6

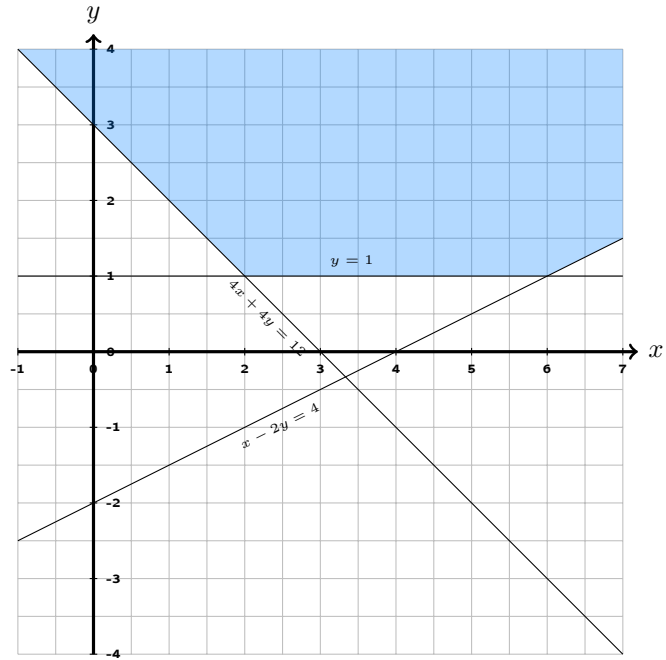
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 8$. By the given condition, the perimeter

$$x + 4x + (4x - 8) \geq 90$$

$$\implies 9x - 8 \geq 90 \implies 9x \geq 98$$

$$\implies x \geq 10.89 \text{ Thus minimum length of the shortest side is 10.89 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Varun

Answer 1

$$5x < 47 \implies x < \frac{47}{5} \implies x < 9.4$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$

Answer 2

$$2x + 5 > 28 \implies 2x > 23 \implies x > \frac{23}{2} \implies x > 0.49$$

Hence, the solution set is $(0.49, \infty)$

Answer 3

$$\begin{aligned} \frac{5(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 35(x-3) \geq 20(3-x) \implies 35x - 105 \geq 60 - 20x \\ \implies 55x &\geq -45 \implies x \geq \frac{-45}{55} \implies x \geq -0.82. \text{ Hence, the solution set is } \\ &[-0.82, \infty) \end{aligned}$$

Answer 4

$$\begin{aligned} \frac{1x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(1x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(1x-5) - 12(7x-3) &\leq 45x \implies 20x - 100 - 84x + 36 \leq 45x \\ \implies -64x - 64 &\leq 45x \implies -64x - 45x \leq 64 \\ \implies -109x &\leq 64 \implies 109x \geq -64 \implies x \geq \frac{-64}{109} \\ \text{Hence, the solution set is } &[-0.59, \infty) \end{aligned}$$

Answer 5

Let x be the mark he should get in the third test.

By the given condition $\frac{30+18+x}{3} \geq 26$

$$\therefore 48 + x \geq 78$$

$$\implies x \geq 78 - 48 \implies x \geq 30$$

Thus the minimum mark he must get is 30.

Answer 6

Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 4$. By the given condition, the perimeter

$$x + 4x + (4x - 4) \geq 41$$

$$\implies 9x - 4 \geq 41 \implies 9x \geq 45$$

$$\implies x \geq 5.00 \text{ Thus minimum length of the shortest side is 5.00 cm.}$$

Answer 7

