

Automatic Questionnaire

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

prajwalsouza.github.io

Linear Inequalities

A small set of problems

Ayan, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $4x + 5 > 54$ 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 28 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 15 cm shorter than the longest side. If the perimeter of the triangle is atleast 141 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

Abhilash, This one's for you. :)

Level 1

Problem 1

Solve $5x < 21$ when x is a natural number.

Problem 2

Solve $5x + 5 > 39$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 27 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 9 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

Akil, This one's for you. :)

Level 1

Problem 1

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

Problem 2

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

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 22 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 18 cm shorter than the longest side. If the perimeter of the triangle is atleast 158 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

Ashlesh, This one's for you. :)

Level 1

Problem 1

Solve $5x < 58$ when x is a natural number.

Problem 2

Solve $4x + 5 > 41$ 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 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 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

Aswin, This one's for you. :)

Level 1

Problem 1

Solve $5x < 26$ when x is a natural number.

Problem 2

Solve $3x + 5 > 39$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 16 and 18 in first two tests. Find the minimum mark he should get in the third test to atleast have an average of 22.

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 122 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

Bhuvan, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $2x + 5 > 12$ when x is a real number.

Problem 3

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

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 19.

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 155 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

Chaithanya, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $3x + 5 > 50$ 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 24 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 113 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

Dhiren, This one's for you. :)

Level 1

Problem 1

Solve $5x < 54$ when x is a natural number.

Problem 2

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

Problem 3

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

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 10 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

Dhruv, This one's for you. :)

Level 1

Problem 1

Solve $5x < 39$ when x is a natural number.

Problem 2

Solve $3x + 5 > 53$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 10 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 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 $x - 2y \leq 2$, $4x + 4y \geq 12$ 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

Glen, This one's for you. :)

Level 1

Problem 1

Solve $5x < 60$ when x is a natural number.

Problem 2

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

Problem 3

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

Problem 4

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

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 19 cm shorter than the longest side. If the perimeter of the triangle is atleast 171 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

Heshamuddin, This one's for you. :)

Level 1

Problem 1

Solve $5x < 50$ when x is a natural number.

Problem 2

Solve $2x + 5 > 60$ 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 21 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 18 cm shorter than the longest side. If the perimeter of the triangle is atleast 144 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

Jeevottam, This one's for you. :)

Level 1

Problem 1

Solve $5x < 26$ when x is a natural number.

Problem 2

Solve $2x + 5 > 10$ 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 27 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 14 cm shorter than the longest side. If the perimeter of the triangle is atleast 112 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

Sahaj, This one's for you. :)

Level 1

Problem 1

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

Problem 2

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

Problem 3

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

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 20.

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 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

Vaishnavi Hegde , This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 39$ 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 21 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 20 cm shorter than the longest side. If the perimeter of the triangle is atleast 162 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

Karthik, This one's for you. :)

Level 1

Problem 1

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

Problem 2

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

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 26 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 3 cm shorter than the longest side. If the perimeter of the triangle is atleast 53 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

Krithi, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $2x + 5 > 38$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 21 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 5 cm shorter than the longest side. If the perimeter of the triangle is atleast 57 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

Suneetha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 27$ when x is a natural number.

Problem 2

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

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 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 13 cm shorter than the longest side. If the perimeter of the triangle is atleast 116 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

Maanasi, This one's for you. :)

Level 1

Problem 1

Solve $5x < 32$ when x is a natural number.

Problem 2

Solve $3x + 5 > 22$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 13 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 6 cm shorter than the longest side. If the perimeter of the triangle is atleast 63 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

Mavith, This one's for you. :)

Level 1

Problem 1

Solve $5x < 32$ when x is a natural number.

Problem 2

Solve $2x + 5 > 44$ 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 18 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 9 cm shorter than the longest side. If the perimeter of the triangle is atleast 98 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

Nihar, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $2x + 5 > 57$ 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 12 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 7 cm shorter than the longest side. If the perimeter of the triangle is atleast 71 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

Joshika, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 40$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 23 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 10 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 $x - 2y \leq 3$, $3x + 4y \geq 12$ 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

Pramod, This one's for you. :)

Level 1

Problem 1

Solve $5x < 25$ when x is a natural number.

Problem 2

Solve $2x + 5 > 42$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 17 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 10 cm shorter than the longest side. If the perimeter of the triangle is atleast 97 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

Rickson, This one's for you. :)

Level 1

Problem 1

Solve $5x < 37$ when x is a natural number.

Problem 2

Solve $6x + 5 > 47$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 11 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 7 cm shorter than the longest side. If the perimeter of the triangle is atleast 66 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

Rishab, This one's for you. :)

Level 1

Problem 1

Solve $5x < 54$ when x is a natural number.

Problem 2

Solve $5x + 5 > 14$ 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 19.

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 146 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

Rithika, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $3x + 5 > 45$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 14 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 13 cm shorter than the longest side. If the perimeter of the triangle is atleast 105 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

Sadhguna, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $6x + 5 > 50$ 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 12 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 13 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 $x - 2y \leq 3$, $3x + 4y \geq 12$ 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

Sameeksha, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $4x + 5 > 28$ when x is a real number.

Problem 3

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

Problem 4

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

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 24.

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 58 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

Sanjith, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 50$ when x is a real number.

Problem 3

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

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 28.

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 185 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

Shamith, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 46$ 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 12 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 11 cm shorter than the longest side. If the perimeter of the triangle is atleast 95 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

Shifali, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $3x + 5 > 37$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 11 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 11 cm shorter than the longest side. If the perimeter of the triangle is atleast 99 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

Shivani, This one's for you. :)

Level 1

Problem 1

Solve $5x < 45$ when x is a natural number.

Problem 2

Solve $4x + 5 > 17$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 16 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 4 cm shorter than the longest side. If the perimeter of the triangle is atleast 36 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

Srivathsa, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 17$ 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 8 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 $x - 2y \leq 4$, $4x + 4y \geq 12$ 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

Srujan, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $4x + 5 > 56$ when x is a real number.

Problem 3

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

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 24.

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 152 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

Swastik, This one's for you. :)

Level 1

Problem 1

Solve $5x < 42$ when x is a natural number.

Problem 2

Solve $2x + 5 > 49$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 14 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 17 cm shorter than the longest side. If the perimeter of the triangle is atleast 157 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

Mahitha, This one's for you. :)

Level 1

Problem 1

Solve $5x < 58$ when x is a natural number.

Problem 2

Solve $2x + 5 > 57$ 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 23 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 19 cm shorter than the longest side. If the perimeter of the triangle is atleast 165 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

Vaishnavi N, This one's for you. :)

Level 1

Problem 1

Solve $5x < 50$ when x is a natural number.

Problem 2

Solve $5x + 5 > 31$ when x is a real number.

Problem 3

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

Problem 4

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

Problem 5

Mr. A obtained 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 16 cm shorter than the longest side. If the perimeter of the triangle is atleast 132 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

Vaibhav, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $6x + 5 > 39$ 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 25 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 3 cm shorter than the longest side. If the perimeter of the triangle is atleast 48 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

Vasthav, This one's for you. :)

Level 1

Problem 1

Solve $5x < 28$ when x is a natural number.

Problem 2

Solve $6x + 5 > 18$ 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 29 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 11 cm shorter than the longest side. If the perimeter of the triangle is atleast 104 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

Vishnu, This one's for you. :)

Level 1

Problem 1

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

Problem 2

Solve $5x + 5 > 14$ 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 27 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 5 cm shorter than the longest side. If the perimeter of the triangle is atleast 57 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

You know what I mean, the answers

For Ayan

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

$$4x + 5 > 54 \implies 4x > 49 \implies x > \frac{49}{4} \implies x > 1.29$$

Hence, the solution set is $(1.29, \infty)$

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

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

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 $\frac{28+18+x}{3} \geq 25$

$$\therefore 46 + x \geq 75$$

$$\implies x \geq 75 - 46 \implies x \geq 29$$

Thus the minimum mark he must get is 29.

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

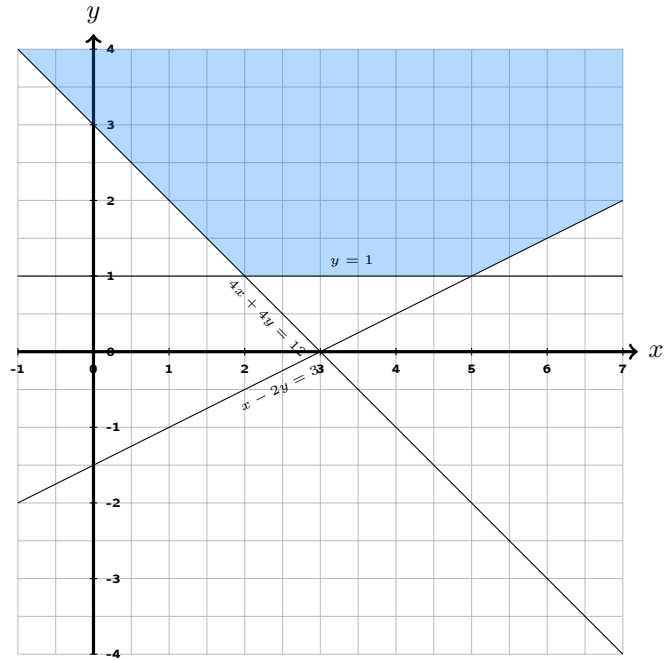
$$x + 4x + (4x - 15) \geq 141$$

$$\implies 9x - 15 \geq 141 \implies 9x \geq 156$$

$$\implies x \geq 17.33$$

Thus minimum length of the shortest side is 17.33 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Abhilash

Answer 1

$$5x < 21 \implies x < \frac{21}{5} \implies x < 4.2$$

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

Answer 2

$$5x + 5 > 39 \implies 5x > 34 \implies x > \frac{34}{5} \implies x > 1.62$$

Hence, the solution set is $(1.62, \infty)$

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

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

Answer 5

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

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

$$\therefore 45 + x \geq 78$$

$$\implies x \geq 78 - 45 \implies x \geq 33$$

Thus the minimum mark he must get is 33.

Answer 6

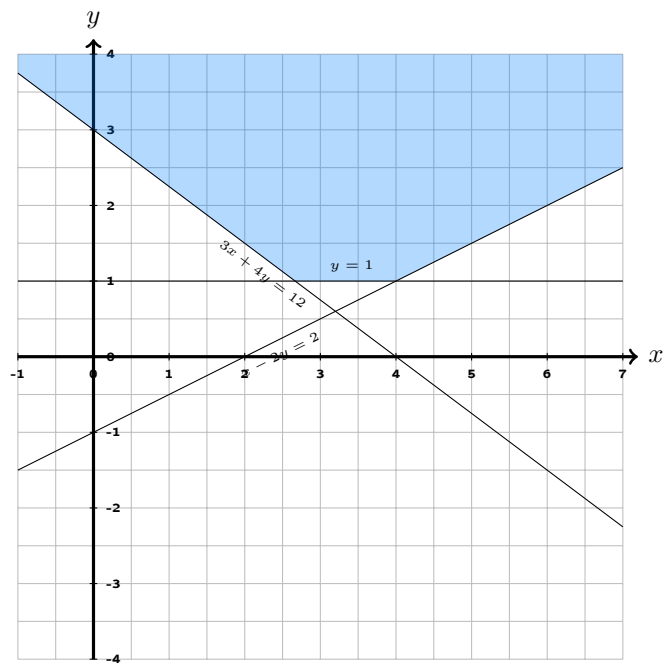
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 9$. By the given condition, the perimeter

$$x + 4x + (4x - 9) \geq 87$$

$$\implies 9x - 9 \geq 87 \implies 9x \geq 96$$

$$\implies x \geq 10.67 \text{ Thus minimum length of the shortest side is 10.67 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Akil

Answer 1

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

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

Answer 2

$$4x + 5 > 27 \implies 4x > 22 \implies x > \frac{22}{4} \implies x > 0.92$$

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

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

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

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 $\frac{22+18+x}{3} \geq 24$

$$\therefore 40 + x \geq 72$$

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

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 $4x - 18$. By the given condition, the perimeter

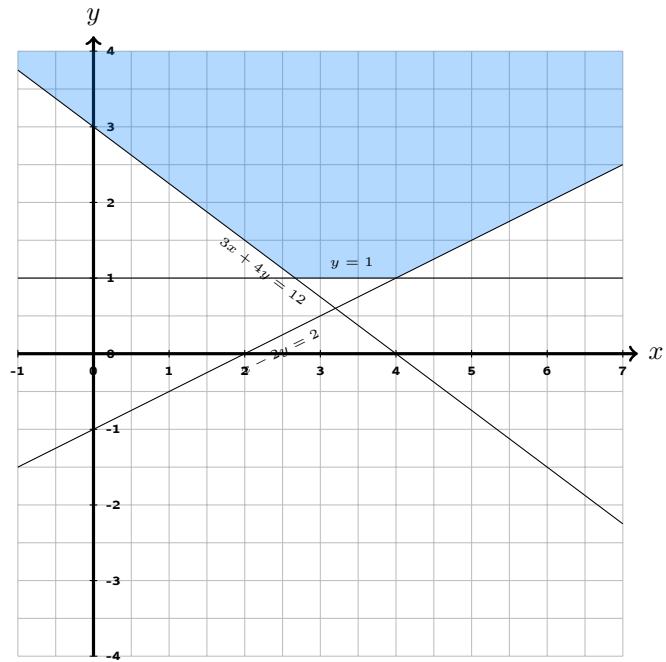
$$x + 4x + (4x - 18) \geq 158$$

$$\implies 9x - 18 \geq 158 \implies 9x \geq 176$$

$$\implies x \geq 19.56$$

Thus minimum length of the shortest side is 19.56 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Ashlesh

Answer 1

$$5x < 58 \implies x < \frac{58}{5} \implies x < 11.6$$

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

Answer 2

$$4x + 5 > 41 \implies 4x > 36 \implies x > \frac{36}{4} \implies x > 0.62$$

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

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 $\frac{28+18+x}{3} \geq 27$

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

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

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

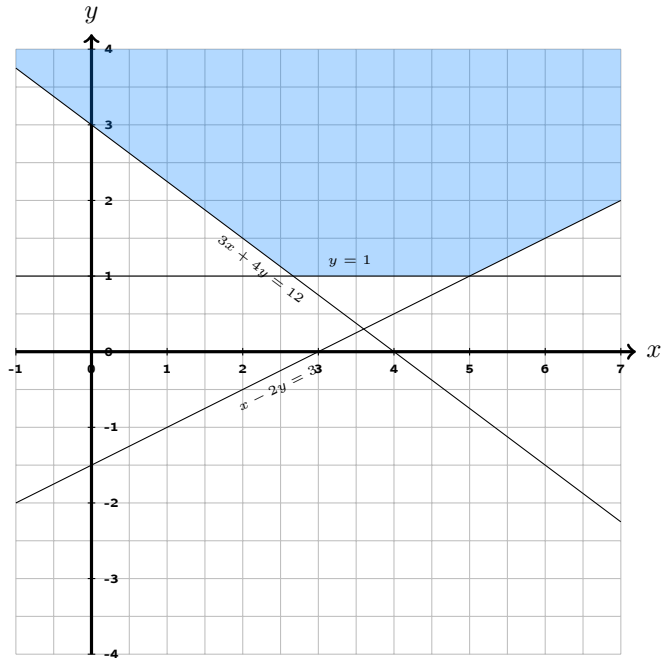
$$x + 4x + (4x - 18) \geq 149$$

$$\implies 9x - 18 \geq 149 \implies 9x \geq 167$$

$$\implies x \geq 18.56$$

Thus minimum length of the shortest side is 18.56 cm.

Answer 7



Linear Inequalities You know what I mean, the answers

For Aswin

Answer 1

$$5x < 26 \implies x < \frac{26}{5} \implies x < 5.2$$

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

Answer 2

$$3x + 5 > 39 \implies 3x > 34 \implies x > \frac{34}{3} \implies x > 1.31$$

Hence, the solution set is $(1.31, \infty)$

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

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

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 $\frac{16+18+x}{3} \geq 22$

$$\therefore 34 + x \geq 66$$

$$\implies x \geq 66 - 34 \implies x \geq 32$$

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 $4x - 15$. By the given condition, the perimeter

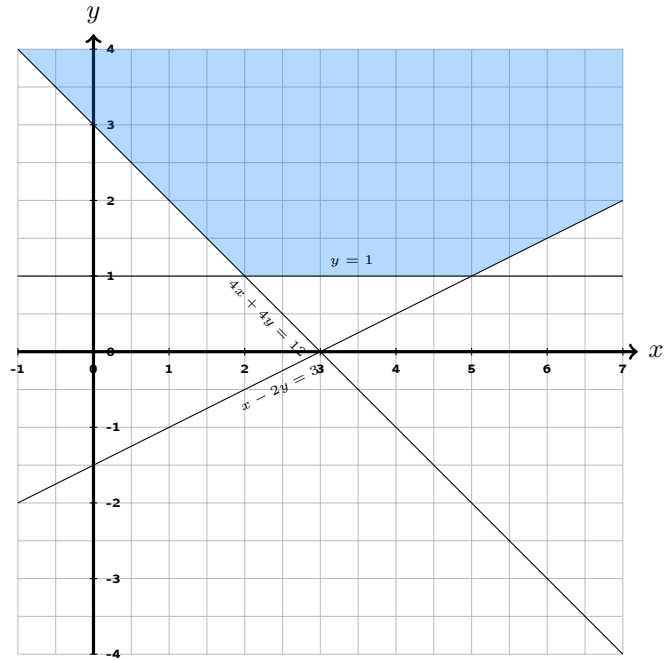
$$x + 4x + (4x - 15) \geq 122$$

$$\implies 9x - 15 \geq 122 \implies 9x \geq 137$$

$$\implies x \geq 15.22$$

Thus minimum length of the shortest side is 15.22 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Bhuvan

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

$$2x + 5 > 12 \implies 2x > 7 \implies x > \frac{7}{2} \implies x > 0.14$$

Hence, the solution set is $(0.14, \infty)$

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

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

Answer 5

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

By the given condition $\frac{28+18+x}{3} \geq 19$

$$\therefore 46 + x \geq 57$$

$$\implies x \geq 57 - 46 \implies x \geq 11$$

Thus the minimum mark he must get is 11.

Answer 6

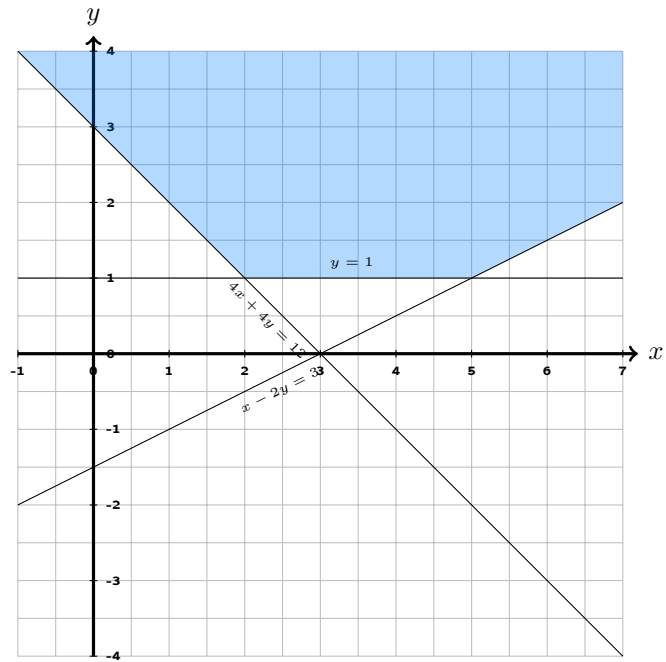
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

$$x + 4x + (4x - 18) \geq 155$$

$$\implies 9x - 18 \geq 155 \implies 9x \geq 173$$

$$\implies x \geq 19.22 \text{ Thus minimum length of the shortest side is } 19.22 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Chaithanya

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

$$3x + 5 > 50 \implies 3x > 45 \implies x > \frac{45}{3} \implies x > 1.32$$

Hence, the solution set is $(1.32, \infty)$

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 $\frac{24+18+x}{3} \geq 25$

$$\therefore 42 + x \geq 75$$

$$\implies x \geq 75 - 42 \implies x \geq 33$$

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 $4x - 11$. By the given condition, the perimeter

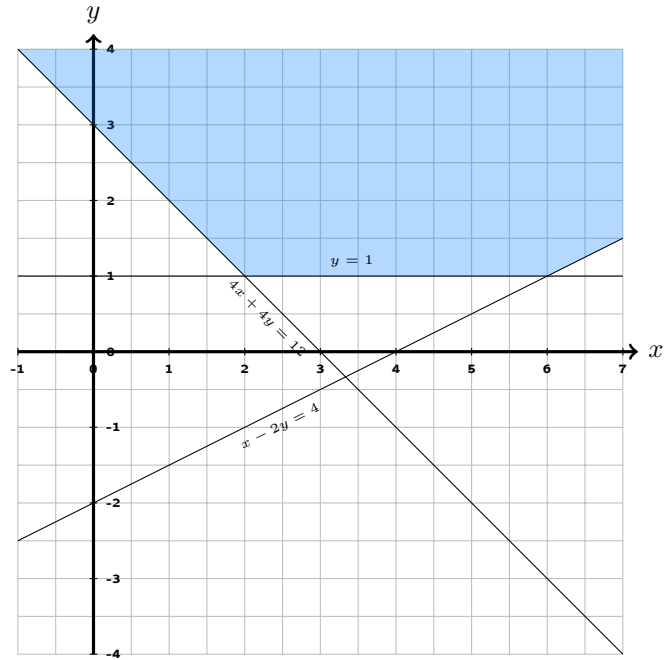
$$x + 4x + (4x - 11) \geq 113$$

$$\implies 9x - 11 \geq 113 \implies 9x \geq 124$$

$$\implies x \geq 13.78$$

Thus minimum length of the shortest side is 13.78 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Dhiren

Answer 1

$$5x < 54 \implies x < \frac{54}{5} \implies x < 10.8$$

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

Answer 2

$$5x + 5 > 38 \implies 5x > 33 \implies x > \frac{33}{5} \implies x > 6.6$$

Hence, the solution set is $(6.6, \infty)$

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

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

Answer 5

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

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

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

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

Thus the minimum mark he must get is 45.

Answer 6

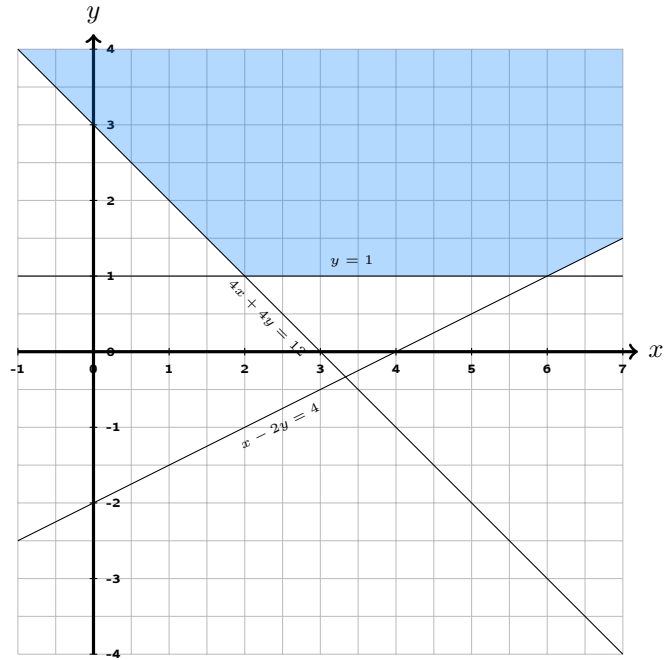
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 10$. By the given condition, the perimeter

$$x + 4x + (4x - 10) \geq 90$$

$$\implies 9x - 10 \geq 90 \implies 9x \geq 100$$

$$\implies x \geq 11.11 \text{ Thus minimum length of the shortest side is 11.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Dhruv

Answer 1

$$5x < 39 \implies x < \frac{39}{5} \implies x < 7.8$$

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

Answer 2

$$3x + 5 > 53 \implies 3x > 48 \implies x > \frac{48}{3} \implies x > 1.23$$

Hence, the solution set is $(1.23, \infty)$

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

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

Answer 5

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

By the given condition $\frac{10+18+x}{3} \geq 28$

$$\therefore 28 + x \geq 84$$

$$\implies x \geq 84 - 28 \implies x \geq 56$$

Thus the minimum mark he must get is 56.

Answer 6

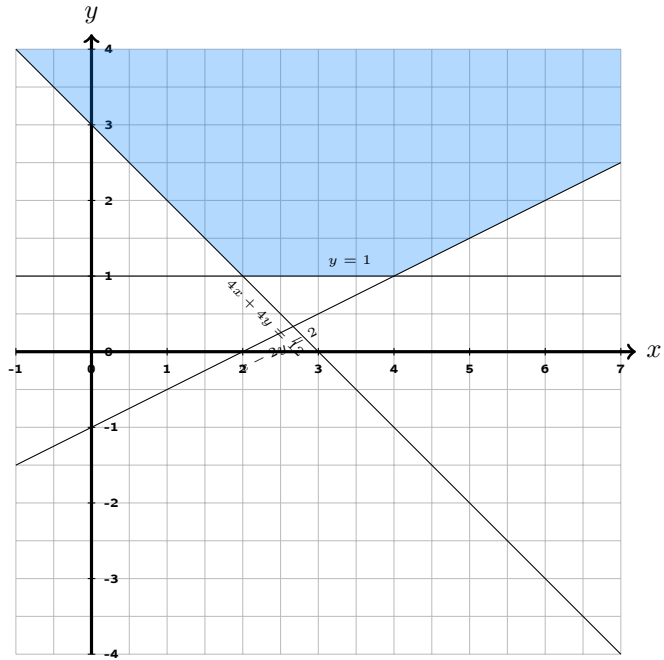
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 8$. By the given condition, the perimeter

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

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

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

Answer 7



Linear Inequalities

You know what I mean, the answers

For Glen

Answer 1

$$5x < 60 \implies x < \frac{60}{5} \implies x < 12.0$$

Hence, the solution set is $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$

Answer 2

$$5x + 5 > 41 \implies 5x > 36 \implies x > \frac{36}{5} \implies x > 0.60$$

Hence, the solution set is $(0.60, \infty)$

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

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

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 $\frac{17+18+x}{3} \geq 29$

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

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

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 $4x - 19$. By the given condition, the perimeter

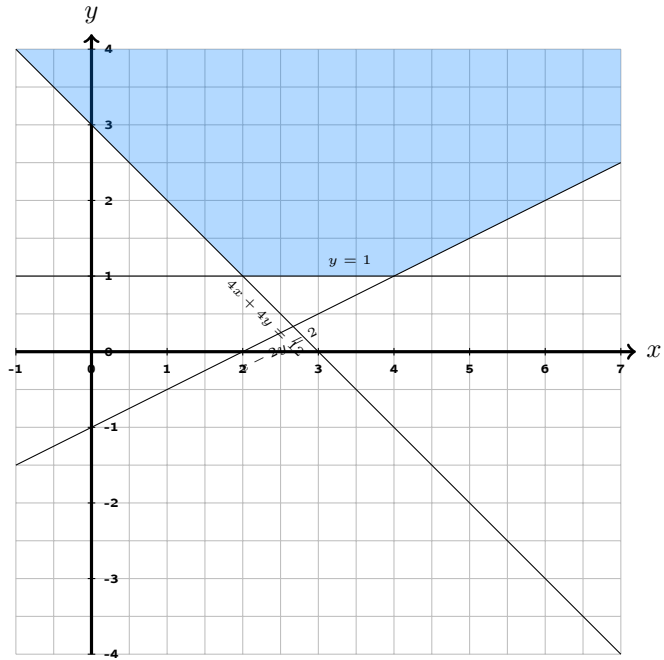
$$x + 4x + (4x - 19) \geq 171$$

$$\implies 9x - 19 \geq 171 \implies 9x \geq 190$$

$$\implies x \geq 21.11$$

Thus minimum length of the shortest side is 21.11 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Heshamuddin

Answer 1

$$5x < 50 \implies x < \frac{50}{5} \implies x < 10.0$$

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

Answer 2

$$2x + 5 > 60 \implies 2x > 55 \implies x > \frac{55}{2} \implies x > 1.10$$

Hence, the solution set is $(1.10, \infty)$

Answer 3

$$\begin{aligned} \frac{2(x-3)}{4} &\geq \frac{5(3-x)}{7} \implies 14(x-3) \geq 20(3-x) \implies 14x - 42 \geq 60 - 20x \\ \implies 34x &\geq 102 \implies x \geq \frac{102}{34} \implies x \geq 3.0. \text{ Hence, the solution set is } [3.0, \infty) \end{aligned}$$

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 $\frac{21+18+x}{3} \geq 17$

$$\therefore 39 + x \geq 51$$

$$\implies x \geq 51 - 39 \implies x \geq 12$$

Thus the minimum mark he must get is 12.

Answer 6

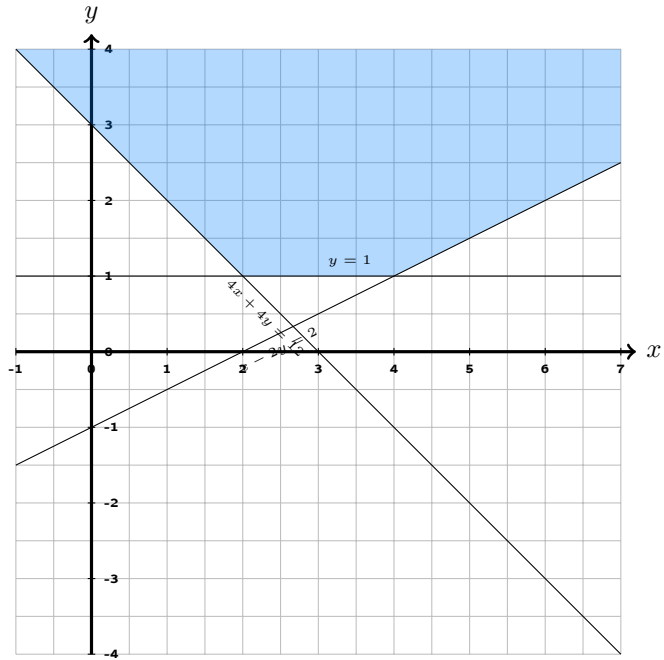
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

$$x + 4x + (4x - 18) \geq 144$$

$$\implies 9x - 18 \geq 144 \implies 9x \geq 162$$

$$\implies x \geq 18.00 \text{ Thus minimum length of the shortest side is 18.00 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Jeevottam

Answer 1

$$5x < 26 \implies x < \frac{26}{5} \implies x < 5.2$$

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

Answer 2

$$2x + 5 > 10 \implies 2x > 5 \implies x > \frac{5}{2} \implies x > 0.19$$

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

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 $\frac{27+18+x}{3} \geq 19$

$$\therefore 45 + x \geq 57$$

$$\implies x \geq 57 - 45 \implies x \geq 12$$

Thus the minimum mark he must get is 12.

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

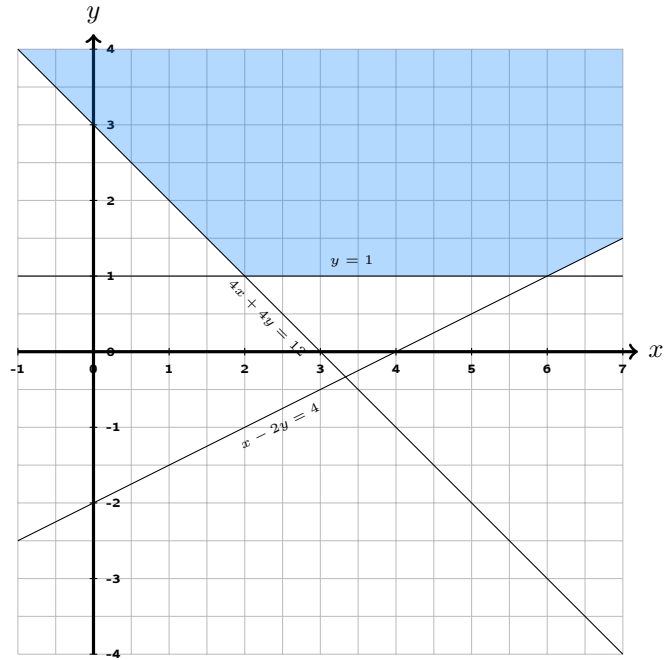
$$x + 4x + (4x - 14) \geq 112$$

$$\implies 9x - 14 \geq 112 \implies 9x \geq 126$$

$$\implies x \geq 14.00$$

Thus minimum length of the shortest side is 14.00 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Sahaj

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

$$5x + 5 > 27 \implies 5x > 22 \implies x > \frac{22}{5} \implies x > 0.63$$

Hence, the solution set is $(0.63, \infty)$

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

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

Answer 5

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

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

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

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

Thus the minimum mark he must get is 14.

Answer 6

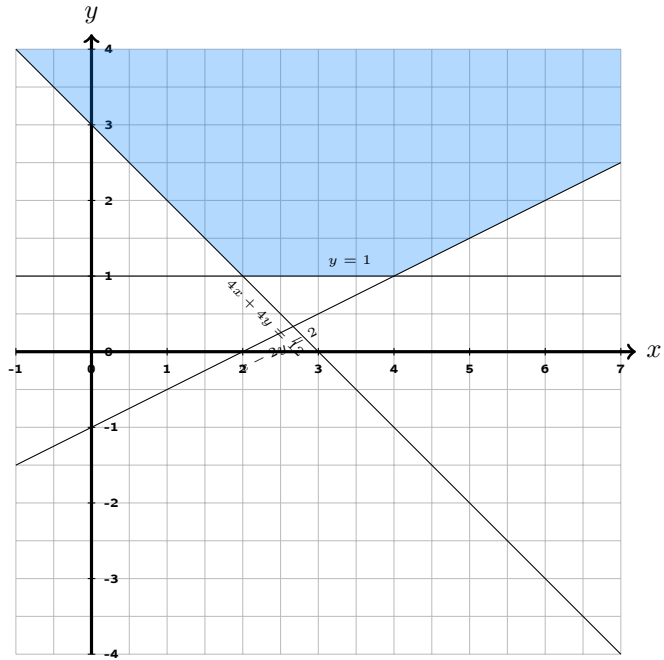
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 16$. By the given condition, the perimeter

$$x + 4x + (4x - 16) \geq 156$$

$$\implies 9x - 16 \geq 156 \implies 9x \geq 172$$

$$\implies x \geq 19.11 \text{ Thus minimum length of the shortest side is 19.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Vaishnavi Hegde

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

$$5x + 5 > 39 \implies 5x > 34 \implies x > \frac{34}{5} \implies x > 6.8$$

Hence, the solution set is $(6.8, \infty)$

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

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \\ \text{Hence, the solution set is } &[-7.11, \infty) \end{aligned}$$

Answer 5

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

By the given condition $\frac{21+18+x}{3} \geq 25$

$$\therefore 39 + x \geq 75$$

$$\implies x \geq 75 - 39 \implies x \geq 36$$

Thus the minimum mark he must get is 36.

Answer 6

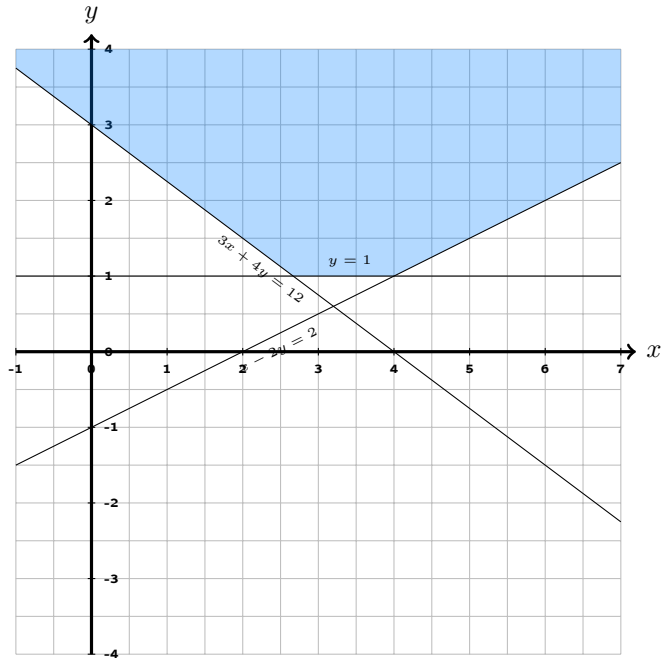
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

$$x + 4x + (4x - 20) \geq 162$$

$$\implies 9x - 20 \geq 162 \implies 9x \geq 182$$

$$\implies x \geq 20.22 \text{ Thus minimum length of the shortest side is } 20.22 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Karthik

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

$$5x + 5 > 29 \implies 5x > 24 \implies x > \frac{24}{5} \implies x > 0.60$$

Hence, the solution set is $(0.60, \infty)$

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

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

Answer 5

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

By the given condition $\frac{26+18+x}{3} \geq 23$

$$\therefore 44 + x \geq 69$$

$$\implies x \geq 69 - 44 \implies x \geq 25$$

Thus the minimum mark he must get is 25.

Answer 6

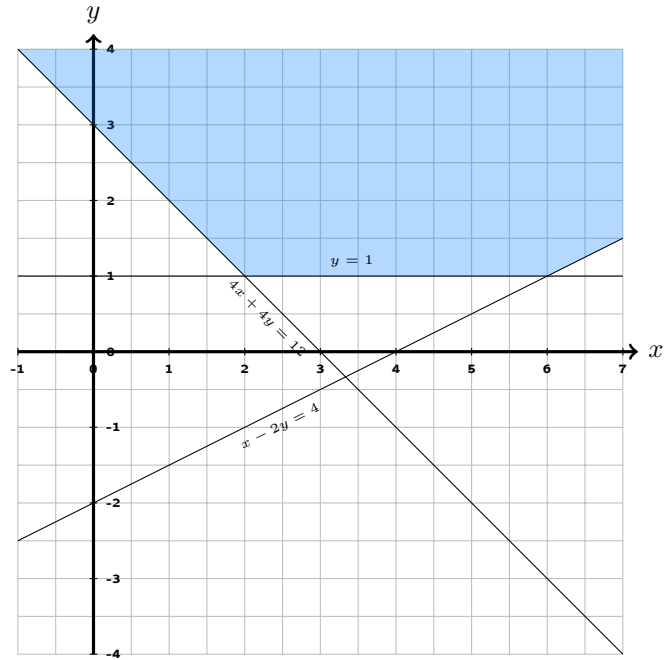
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 3$. By the given condition, the perimeter

$$x + 4x + (4x - 3) \geq 53$$

$$\implies 9x - 3 \geq 53 \implies 9x \geq 56$$

$$\implies x \geq 6.22 \text{ Thus minimum length of the shortest side is 6.22 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Krithi

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

$$2x + 5 > 38 \implies 2x > 33 \implies x > \frac{33}{2} \implies x > 0.62$$

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

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

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

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 $\frac{21+18+x}{3} \geq 21$

$$\therefore 39 + x \geq 63$$

$$\implies x \geq 63 - 39 \implies x \geq 24$$

Thus the minimum mark he must get is 24.

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

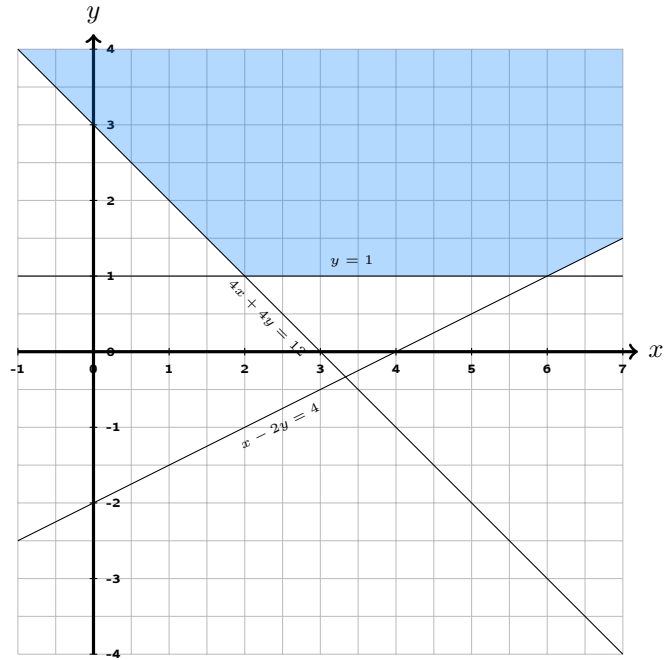
$$x + 4x + (4x - 5) \geq 57$$

$$\implies 9x - 5 \geq 57 \implies 9x \geq 62$$

$$\implies x \geq 6.89$$

Thus minimum length of the shortest side is 6.89 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Suneetha

Answer 1

$$5x < 27 \implies x < \frac{27}{5} \implies x < 5.4$$

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

Answer 2

$$2x + 5 > 30 \implies 2x > 25 \implies x > \frac{25}{2} \implies x > 0.93$$

Hence, the solution set is $(0.93, \infty)$

Answer 3

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

Answer 4

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

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 $\frac{29+18+x}{3} \geq 25$

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

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

Thus the minimum mark he must get is 28.

Answer 6

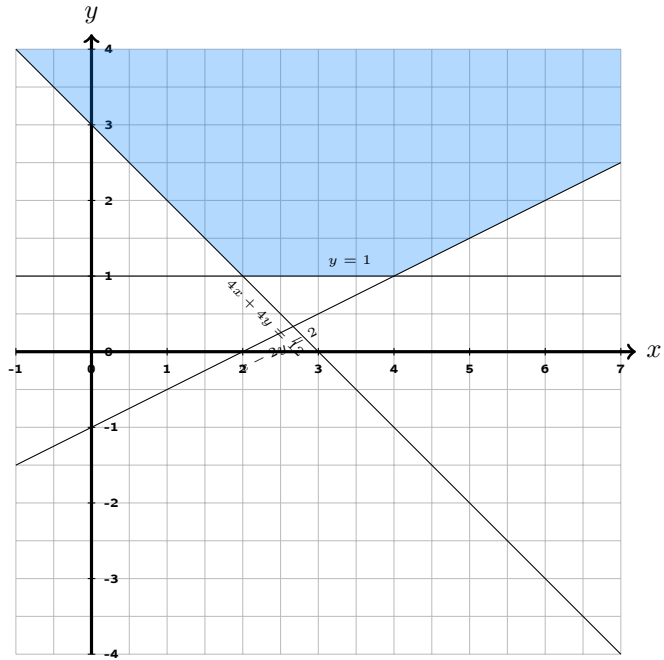
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 13$. By the given condition, the perimeter

$$x + 4x + (4x - 13) \geq 116$$

$$\implies 9x - 13 \geq 116 \implies 9x \geq 129$$

$$\implies x \geq 14.33 \text{ Thus minimum length of the shortest side is } 14.33 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Maanasi

Answer 1

$$5x < 32 \implies x < \frac{32}{5} \implies x < 6.4$$

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

Answer 2

$$3x + 5 > 22 \implies 3x > 17 \implies x > \frac{17}{3} \implies x > 0.53$$

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

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

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

Answer 5

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

By the given condition $\frac{13+18+x}{3} \geq 17$

$$\therefore 31 + x \geq 51$$

$$\implies x \geq 51 - 31 \implies x \geq 20$$

Thus the minimum mark he must get is 20.

Answer 6

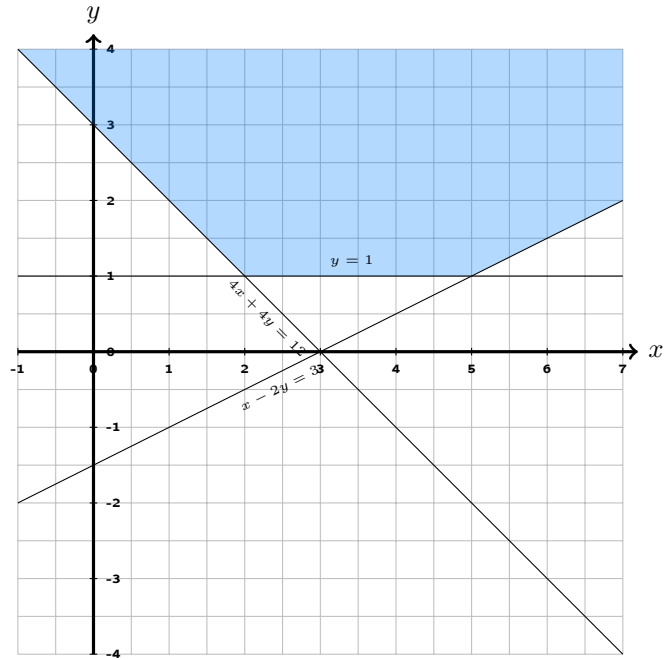
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 6$. By the given condition, the perimeter

$$x + 4x + (4x - 6) \geq 63$$

$$\implies 9x - 6 \geq 63 \implies 9x \geq 69$$

$$\implies x \geq 7.67 \text{ Thus minimum length of the shortest side is 7.67 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Mavith

Answer 1

$$5x < 32 \implies x < \frac{32}{5} \implies x < 6.4$$

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

Answer 2

$$2x + 5 > 44 \implies 2x > 39 \implies x > \frac{39}{2} \implies x > 1.22$$

Hence, the solution set is $(1.22, \infty)$

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 $\frac{18+18+x}{3} \geq 27$

$$\therefore 36 + x \geq 81$$

$$\implies x \geq 81 - 36 \implies x \geq 45$$

Thus the minimum mark he must get is 45.

Answer 6

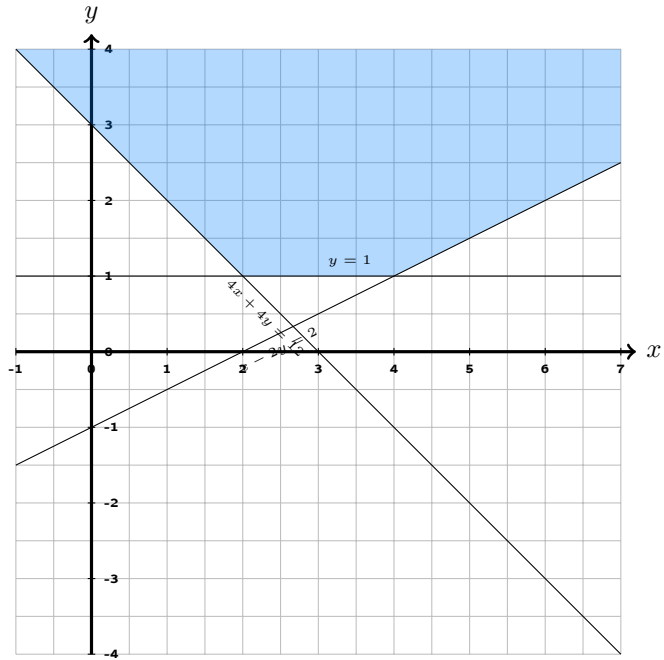
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 9$. By the given condition, the perimeter

$$x + 4x + (4x - 9) \geq 98$$

$$\implies 9x - 9 \geq 98 \implies 9x \geq 107$$

$$\implies x \geq 11.89 \text{ Thus minimum length of the shortest side is 11.89 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Nihar

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

$$2x + 5 > 57 \implies 2x > 52 \implies x > \frac{52}{2} \implies x > 0.91$$

Hence, the solution set is $(0.91, \infty)$

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

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

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 $\frac{12+18+x}{3} \geq 28$

$$\therefore 30 + x \geq 84$$

$$\implies x \geq 84 - 30 \implies x \geq 54$$

Thus the minimum mark he must get is 54.

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

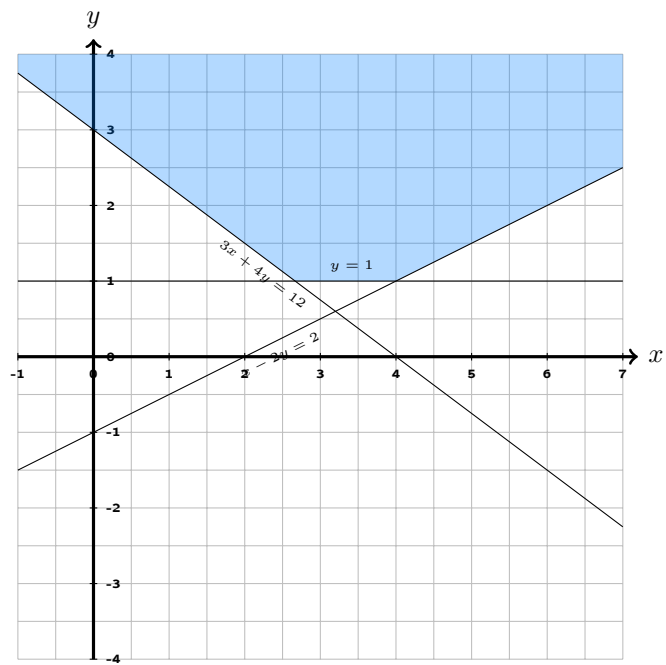
$$x + 4x + (4x - 7) \geq 71$$

$$\implies 9x - 7 \geq 71 \implies 9x \geq 78$$

$$\implies x \geq 8.67$$

Thus minimum length of the shortest side is 8.67 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Joshika

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

$$5x + 5 > 40 \implies 5x > 35 \implies x > \frac{35}{5} \implies x > 0.88$$

Hence, the solution set is $(0.88, \infty)$

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

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

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 $\frac{23+18+x}{3} \geq 26$

$$\therefore 41 + x \geq 78$$

$$\implies x \geq 78 - 41 \implies x \geq 37$$

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 $4x - 10$. By the given condition, the perimeter

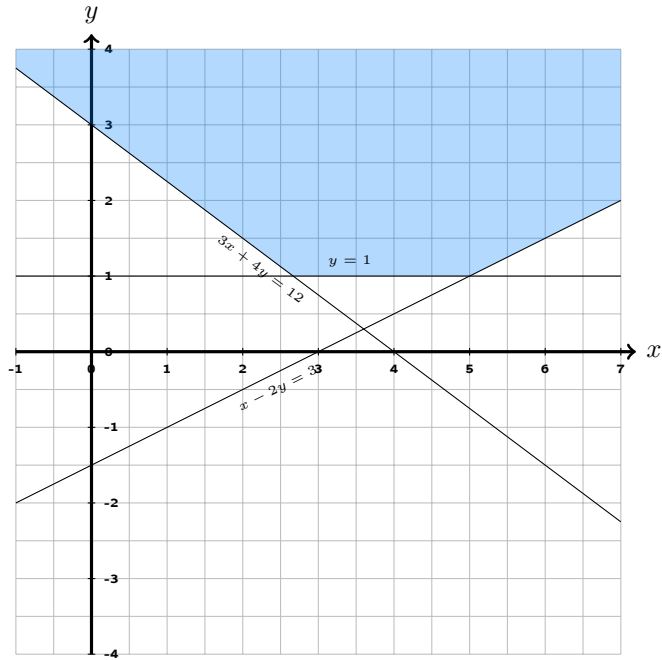
$$x + 4x + (4x - 10) \geq 85$$

$$\implies 9x - 10 \geq 85 \implies 9x \geq 95$$

$$\implies x \geq 10.56$$

Thus minimum length of the shortest side is 10.56 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Pramod

Answer 1

$$5x < 25 \implies x < \frac{25}{5} \implies x < 5.0$$

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

Answer 2

$$2x + 5 > 42 \implies 2x > 37 \implies x > \frac{37}{2} \implies x > 1.48$$

Hence, the solution set is $(1.48, \infty)$

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

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

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 $\frac{17+18+x}{3} \geq 17$

$$\therefore 35 + x \geq 51$$

$$\implies x \geq 51 - 35 \implies x \geq 16$$

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 $4x - 10$. By the given condition, the perimeter

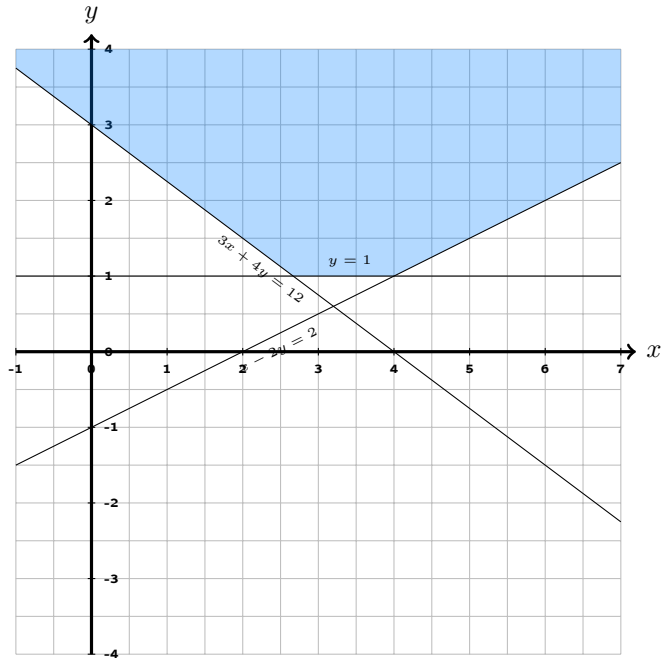
$$x + 4x + (4x - 10) \geq 97$$

$$\implies 9x - 10 \geq 97 \implies 9x \geq 107$$

$$\implies x \geq 11.89$$

Thus minimum length of the shortest side is 11.89 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Rickson

Answer 1

$$5x < 37 \implies x < \frac{37}{5} \implies x < 7.4$$

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

Answer 2

$$6x + 5 > 47 \implies 6x > 42 \implies x > \frac{42}{6} \implies x > 1.14$$

Hence, the solution set is $(1.14, \infty)$

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

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

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 $\frac{11+18+x}{3} \geq 24$

$$\therefore 29 + x \geq 72$$

$$\implies x \geq 72 - 29 \implies x \geq 43$$

Thus the minimum mark he must get is 43.

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

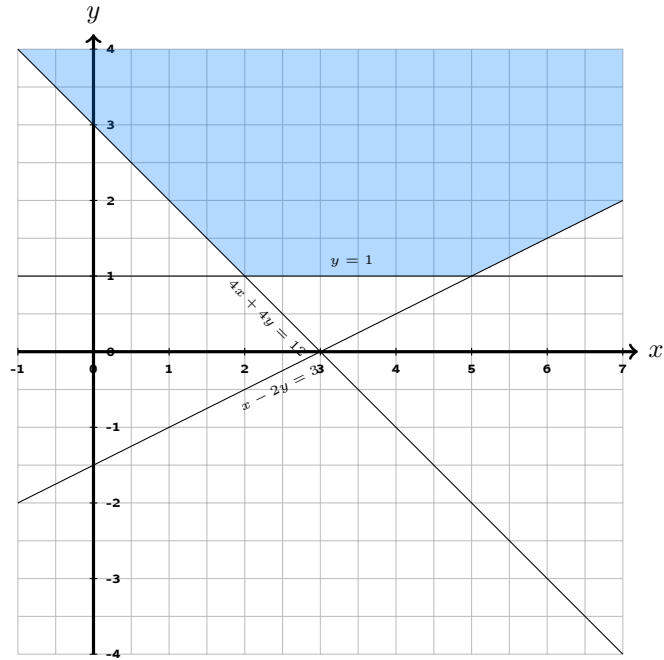
$$x + 4x + (4x - 7) \geq 66$$

$$\implies 9x - 7 \geq 66 \implies 9x \geq 73$$

$$\implies x \geq 8.11$$

Thus minimum length of the shortest side is 8.11 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Rishab

Answer 1

$$5x < 54 \implies x < \frac{54}{5} \implies x < 10.8$$

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

Answer 2

$$5x + 5 > 14 \implies 5x > 9 \implies x > \frac{9}{5} \implies x > 0.17$$

Hence, the solution set is $(0.17, \infty)$

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 $\frac{22+18+x}{3} \geq 19$

$$\therefore 40 + x \geq 57$$

$$\implies x \geq 57 - 40 \implies x \geq 17$$

Thus the minimum mark he must get is 17.

Answer 6

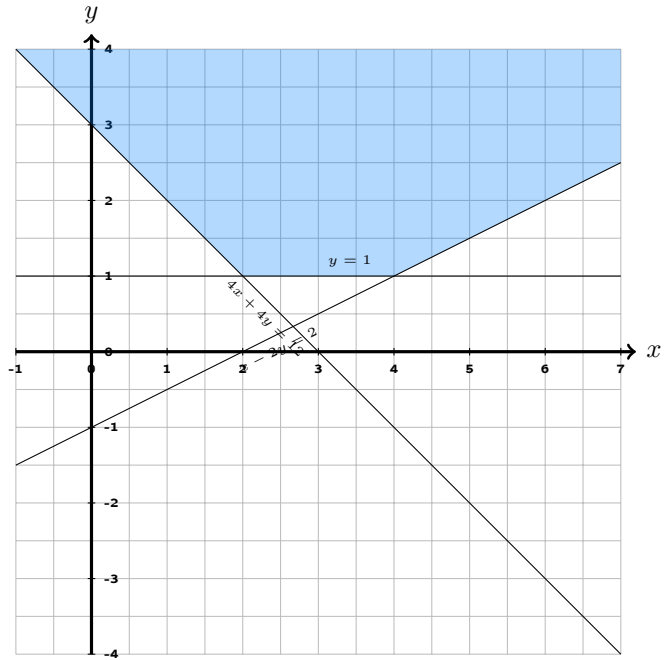
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 16$. By the given condition, the perimeter

$$x + 4x + (4x - 16) \geq 146$$

$$\implies 9x - 16 \geq 146 \implies 9x \geq 162$$

$$\implies x \geq 18.00 \text{ Thus minimum length of the shortest side is 18.00 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Rithika

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

$$3x + 5 > 45 \implies 3x > 40 \implies x > \frac{40}{3} \implies x > 0.87$$

Hence, the solution set is $(0.87, \infty)$

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

$$\begin{aligned} \frac{6x-5}{3} - \frac{7x-3}{5} &\leq \frac{3x}{4} \implies \frac{5(6x-5)-3(7x-3)}{15} \leq \frac{3x}{4} \\ \implies 20(6x-5) - 12(7x-3) &\leq 45x \implies 120x - 100 - 84x + 36 \leq 45x \\ \implies 36x - 64 &\leq 45x \implies 36x - 45x \leq 64 \\ \implies -9x &\leq 64 \implies 9x \geq -64 \implies x \geq \frac{-64}{9} \\ \text{Hence, the solution set is } &[-7.11, \infty) \end{aligned}$$

Answer 5

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

By the given condition $\frac{14+18+x}{3} \geq 30$

$$\therefore 32 + x \geq 90$$

$$\implies x \geq 90 - 32 \implies x \geq 58$$

Thus the minimum mark he must get is 58.

Answer 6

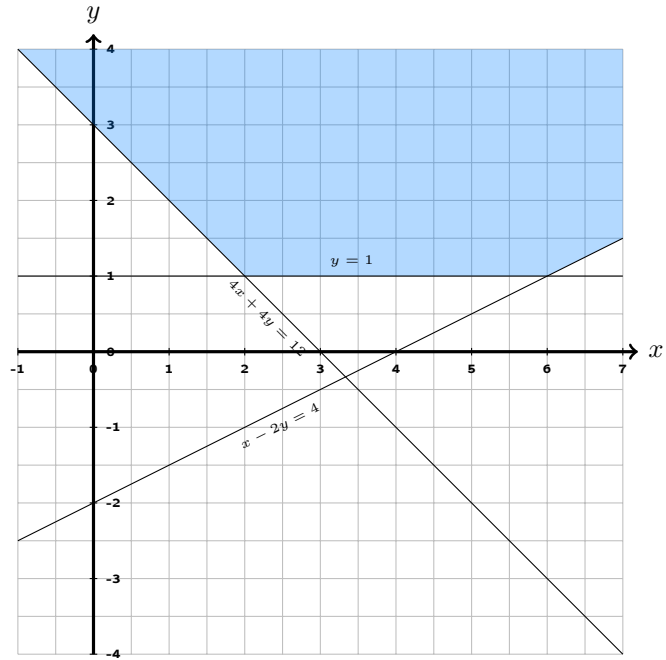
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 13$. By the given condition, the perimeter

$$x + 4x + (4x - 13) \geq 105$$

$$\implies 9x - 13 \geq 105 \implies 9x \geq 118$$

$$\implies x \geq 13.11 \text{ Thus minimum length of the shortest side is 13.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Sadhguna

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

$$6x + 5 > 50 \implies 6x > 45 \implies x > \frac{45}{6} \implies x > 0.92$$

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

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 $\frac{12+18+x}{3} \geq 25$

$$\therefore 30 + x \geq 75$$

$$\implies x \geq 75 - 30 \implies x \geq 45$$

Thus the minimum mark he must get is 45.

Answer 6

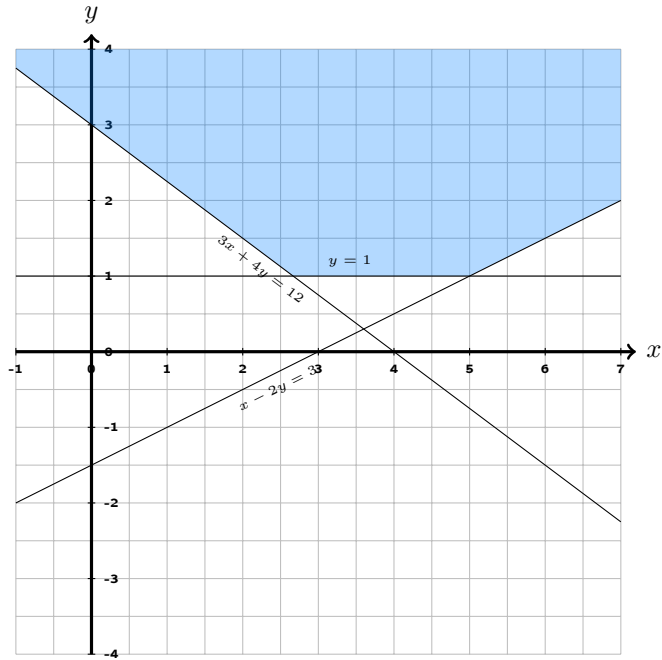
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 13$. By the given condition, the perimeter

$$x + 4x + (4x - 13) \geq 121$$

$$\implies 9x - 13 \geq 121 \implies 9x \geq 134$$

$$\implies x \geq 14.89 \text{ Thus minimum length of the shortest side is 14.89 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Sameeksha

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

$$4x + 5 > 28 \implies 4x > 23 \implies x > \frac{23}{4} \implies x > 0.43$$

Hence, the solution set is $(0.43, \infty)$

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

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

Answer 5

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

By the given condition $\frac{22+18+x}{3} \geq 24$

$$\therefore 40 + x \geq 72$$

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

Thus the minimum mark he must get is 32.

Answer 6

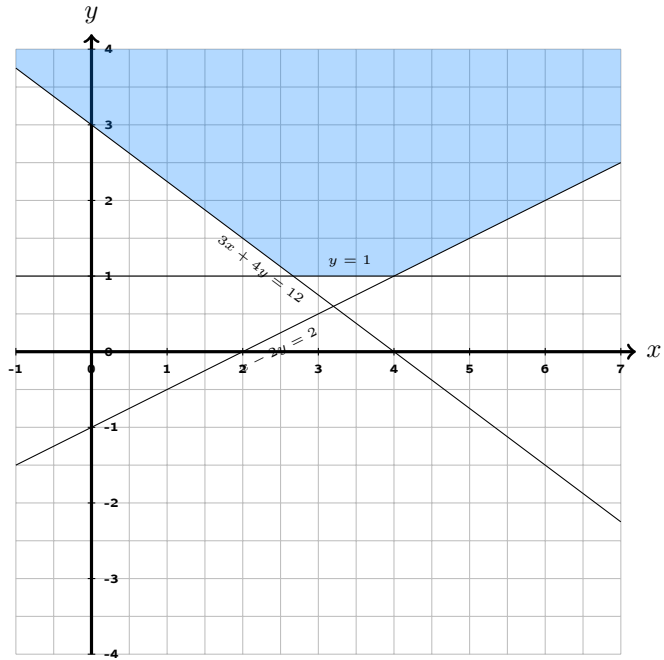
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 6$. By the given condition, the perimeter

$$x + 4x + (4x - 6) \geq 58$$

$$\implies 9x - 6 \geq 58 \implies 9x \geq 64$$

$$\implies x \geq 7.11 \text{ Thus minimum length of the shortest side is 7.11 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Sanjith

Answer 1

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

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

Answer 2

$$5x + 5 > 50 \implies 5x > 45 \implies x > \frac{45}{5} \implies x > 1.88$$

Hence, the solution set is $(1.88, \infty)$

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

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

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 $\frac{23+18+x}{3} \geq 28$

$$\therefore 41 + x \geq 84$$

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

Thus the minimum mark he must get is 43.

Answer 6

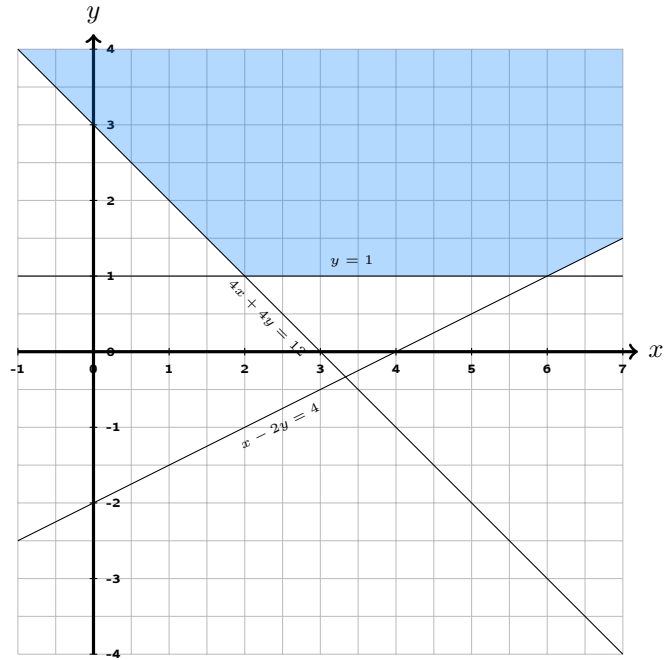
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 20$. By the given condition, the perimeter

$$x + 4x + (4x - 20) \geq 185$$

$$\implies 9x - 20 \geq 185 \implies 9x \geq 205$$

$$\implies x \geq 22.78 \text{ Thus minimum length of the shortest side is } 22.78 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Shamith

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

$$5x + 5 > 46 \implies 5x > 41 \implies x > \frac{41}{5} \implies x > 0.80$$

Hence, the solution set is $(0.80, \infty)$

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 $\frac{12+18+x}{3} \geq 18$

$$\therefore 30 + x \geq 54$$

$$\implies x \geq 54 - 30 \implies x \geq 24$$

Thus the minimum mark he must get is 24.

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

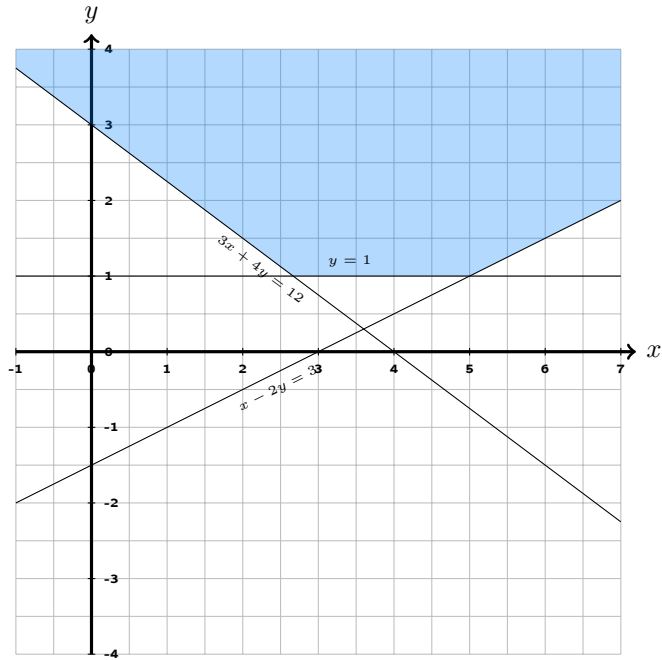
$$x + 4x + (4x - 11) \geq 95$$

$$\implies 9x - 11 \geq 95 \implies 9x \geq 106$$

$$\implies x \geq 11.78$$

Thus minimum length of the shortest side is 11.78 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Shifali

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

$$3x + 5 > 37 \implies 3x > 32 \implies x > \frac{32}{3} \implies x > 0.68$$

Hence, the solution set is $(0.68, \infty)$

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

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

Answer 5

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

By the given condition $\frac{11+18+x}{3} \geq 24$

$$\therefore 29 + x \geq 72$$

$$\implies x \geq 72 - 29 \implies x \geq 43$$

Thus the minimum mark he must get is 43.

Answer 6

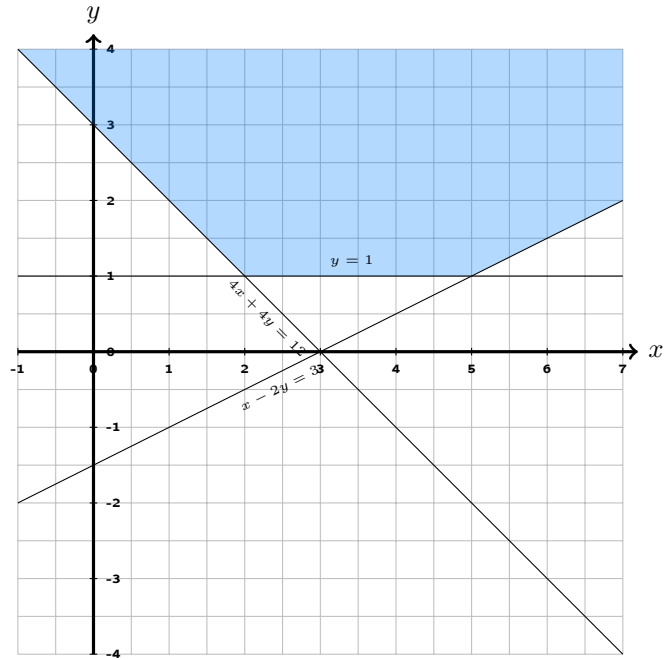
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 11$. By the given condition, the perimeter

$$x + 4x + (4x - 11) \geq 99$$

$$\implies 9x - 11 \geq 99 \implies 9x \geq 110$$

$$\implies x \geq 12.22 \text{ Thus minimum length of the shortest side is 12.22 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Shivani

Answer 1

$$5x < 45 \implies x < \frac{45}{5} \implies x < 9.0$$

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

Answer 2

$$4x + 5 > 17 \implies 4x > 12 \implies x > \frac{12}{4} \implies x > 0.27$$

Hence, the solution set is $(0.27, \infty)$

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

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

Answer 5

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

By the given condition $\frac{16+18+x}{3} \geq 23$

$$\therefore 34 + x \geq 69$$

$$\implies x \geq 69 - 34 \implies x \geq 35$$

Thus the minimum mark he must get is 35.

Answer 6

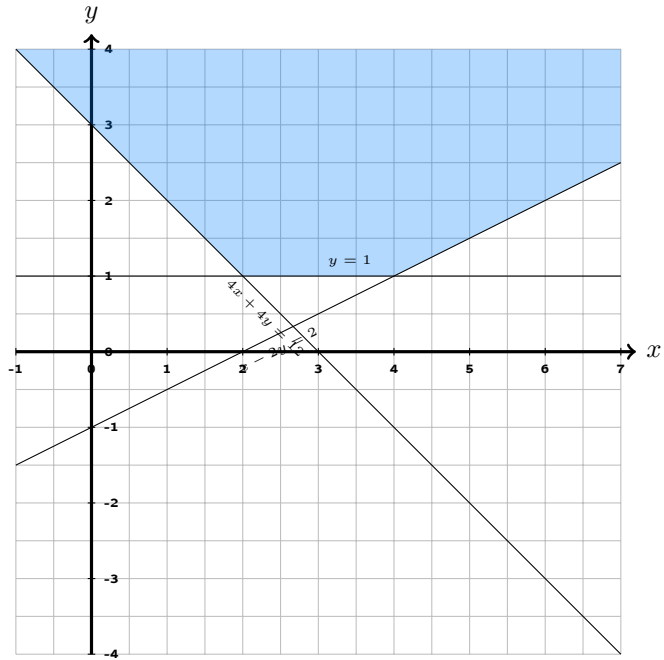
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 4$. By the given condition, the perimeter

$$x + 4x + (4x - 4) \geq 36$$

$$\implies 9x - 4 \geq 36 \implies 9x \geq 40$$

$$\implies x \geq 4.44 \text{ Thus minimum length of the shortest side is 4.44 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Srivathsa

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

$$5x + 5 > 17 \implies 5x > 12 \implies x > \frac{12}{5} \implies x > 0.39$$

Hence, the solution set is $(0.39, \infty)$

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

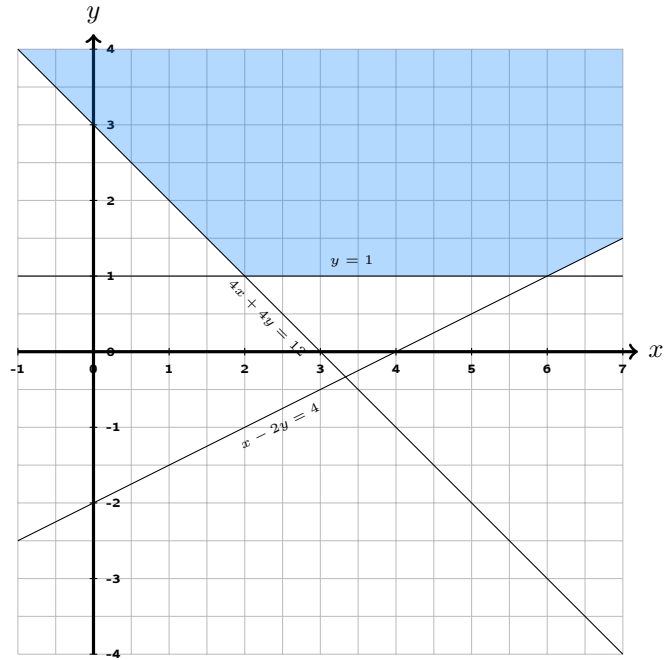
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 8$. By the given condition, the perimeter

$$x + 4x + (4x - 8) \geq 80$$

$$\implies 9x - 8 \geq 80 \implies 9x \geq 88$$

$$\implies x \geq 9.78 \text{ Thus minimum length of the shortest side is } 9.78 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Srujan

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

$$4x + 5 > 56 \implies 4x > 51 \implies x > \frac{51}{4} \implies x > 1.34$$

Hence, the solution set is $(1.34, \infty)$

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

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

Answer 5

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

By the given condition $\frac{30+18+x}{3} \geq 24$

$$\therefore 48 + x \geq 72$$

$$\implies x \geq 72 - 48 \implies x \geq 24$$

Thus the minimum mark he must get is 24.

Answer 6

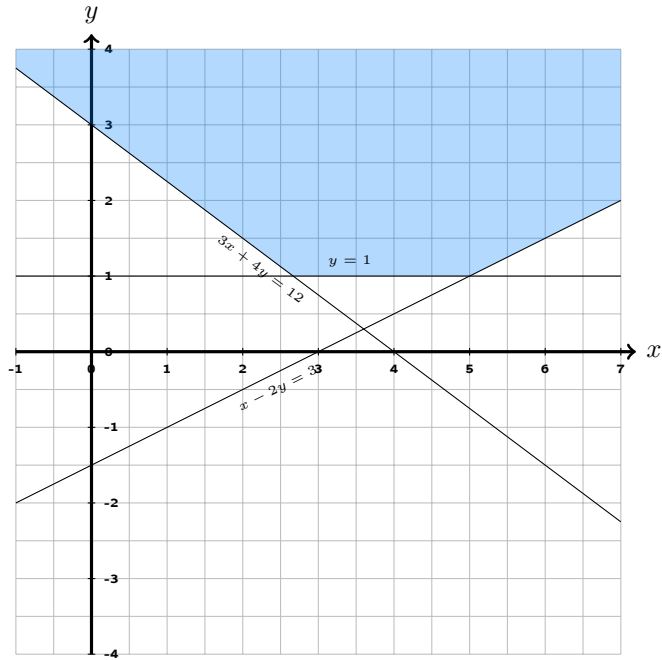
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 18$. By the given condition, the perimeter

$$x + 4x + (4x - 18) \geq 152$$

$$\implies 9x - 18 \geq 152 \implies 9x \geq 170$$

$$\implies x \geq 18.89 \text{ Thus minimum length of the shortest side is 18.89 cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Swastik

Answer 1

$$5x < 42 \implies x < \frac{42}{5} \implies x < 8.4$$

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

Answer 2

$$2x + 5 > 49 \implies 2x > 44 \implies x > \frac{44}{2} \implies x > 1.05$$

Hence, the solution set is $(1.05, \infty)$

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

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

Answer 5

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

By the given condition $\frac{14+18+x}{3} \geq 23$

$$\therefore 32 + x \geq 69$$

$$\implies x \geq 69 - 32 \implies x \geq 37$$

Thus the minimum mark he must get is 37.

Answer 6

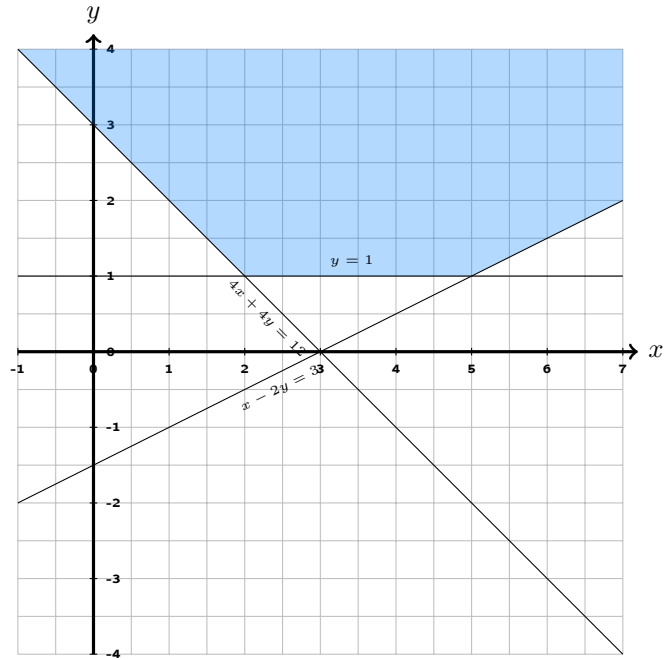
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 17$. By the given condition, the perimeter

$$x + 4x + (4x - 17) \geq 157$$

$$\implies 9x - 17 \geq 157 \implies 9x \geq 174$$

$$\implies x \geq 19.33 \text{ Thus minimum length of the shortest side is } 19.33 \text{ cm.}$$

Answer 7



Linear Inequalities

You know what I mean, the answers

For Mahitha

Answer 1

$$5x < 58 \implies x < \frac{58}{5} \implies x < 11.6$$

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

Answer 2

$$2x + 5 > 57 \implies 2x > 52 \implies x > \frac{52}{2} \implies x > 0.90$$

Hence, the solution set is $(0.90, \infty)$

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 $\frac{23+18+x}{3} \geq 21$

$$\therefore 41 + x \geq 63$$

$$\implies x \geq 63 - 41 \implies x \geq 22$$

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 $4x - 19$. By the given condition, the perimeter

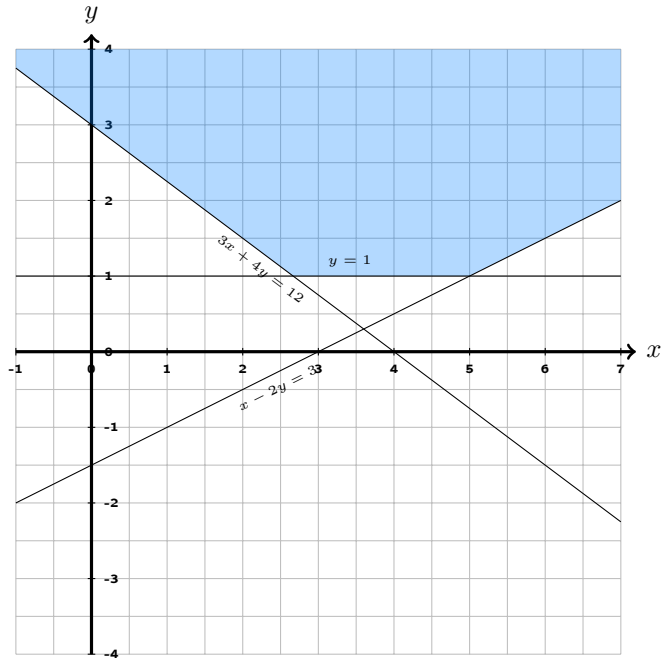
$$x + 4x + (4x - 19) \geq 165$$

$$\implies 9x - 19 \geq 165 \implies 9x \geq 184$$

$$\implies x \geq 20.44$$

Thus minimum length of the shortest side is 20.44 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Vaishnavi N

Answer 1

$$5x < 50 \implies x < \frac{50}{5} \implies x < 10.0$$

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

Answer 2

$$5x + 5 > 31 \implies 5x > 26 \implies x > \frac{26}{5} \implies x > 0.52$$

Hence, the solution set is $(0.52, \infty)$

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

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

Answer 5

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

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

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

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

Thus the minimum mark he must get is 31.

Answer 6

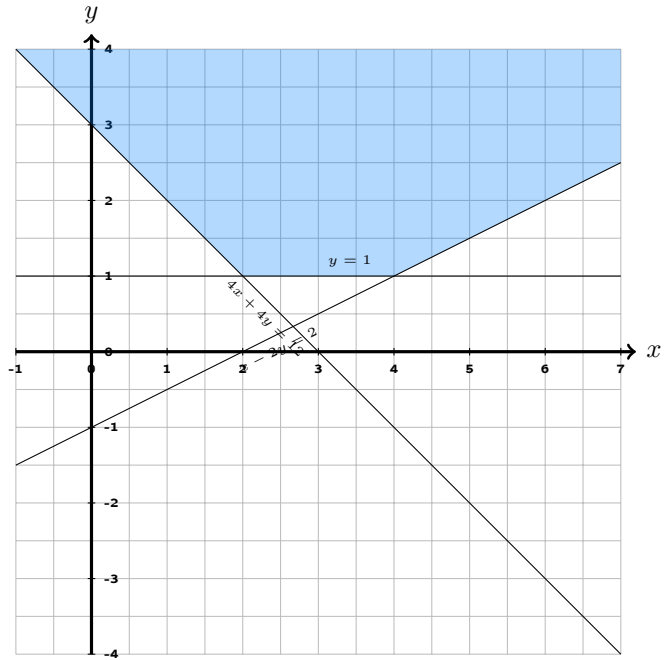
Let x be the length of the shortest side. Then the longest side is $4x$. Also the third side is $4x - 16$. By the given condition, the perimeter

$$x + 4x + (4x - 16) \geq 132$$

$$\implies 9x - 16 \geq 132 \implies 9x \geq 148$$

$$\implies x \geq 16.44 \text{ Thus minimum length of the shortest side is 16.44 cm.}$$

Answer 7



Linear Inequalities You know what I mean, the answers

For Vaibhav

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

$$6x + 5 > 39 \implies 6x > 34 \implies x > \frac{34}{6} \implies x > 1.10$$

Hence, the solution set is $(1.10, \infty)$

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

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

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 $\frac{25+18+x}{3} \geq 30$

$$\therefore 43 + x \geq 90$$

$$\implies x \geq 90 - 43 \implies x \geq 47$$

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 $4x - 3$. By the given condition, the perimeter

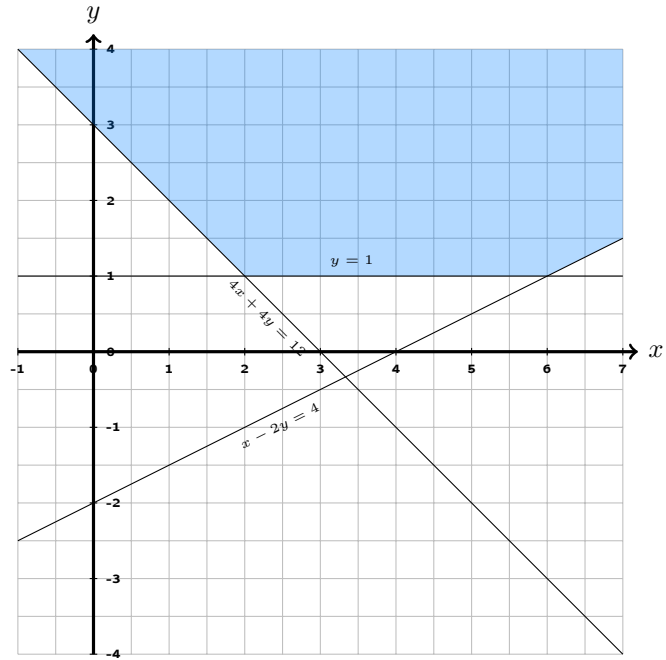
$$x + 4x + (4x - 3) \geq 48$$

$$\implies 9x - 3 \geq 48 \implies 9x \geq 51$$

$$\implies x \geq 5.67$$

Thus minimum length of the shortest side is 5.67 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Vasthav

Answer 1

$$5x < 28 \implies x < \frac{28}{5} \implies x < 5.6$$

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

Answer 2

$$6x + 5 > 18 \implies 6x > 13 \implies x > \frac{13}{6} \implies x > 0.46$$

Hence, the solution set is $(0.46, \infty)$

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

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

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 $\frac{29+18+x}{3} \geq 24$

$$\therefore 47 + x \geq 72$$

$$\implies x \geq 72 - 47 \implies x \geq 25$$

Thus the minimum mark he must get is 25.

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

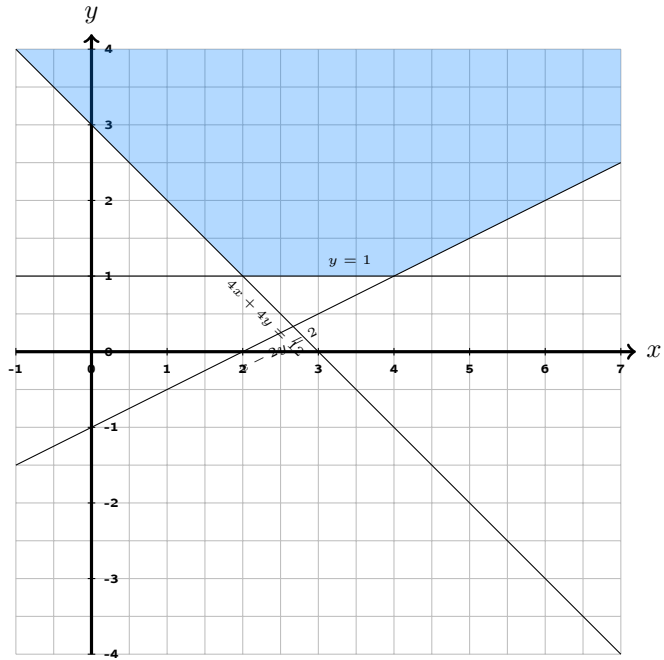
$$x + 4x + (4x - 11) \geq 104$$

$$\implies 9x - 11 \geq 104 \implies 9x \geq 115$$

$$\implies x \geq 12.78$$

Thus minimum length of the shortest side is 12.78 cm.

Answer 7



Linear Inequalities

You know what I mean, the answers

For Vishnu

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

$$5x + 5 > 14 \implies 5x > 9 \implies x > \frac{9}{5} \implies x > 0.22$$

Hence, the solution set is $(0.22, \infty)$

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

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

Answer 5

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

By the given condition $\frac{27+18+x}{3} \geq 23$

$$\therefore 45 + x \geq 69$$

$$\implies x \geq 69 - 45 \implies x \geq 24$$

Thus the minimum mark he must get is 24.

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

$$x + 4x + (4x - 5) \geq 57$$

$$\implies 9x - 5 \geq 57 \implies 9x \geq 62$$

$$\implies x \geq 6.89 \text{ Thus minimum length of the shortest side is 6.89 cm.}$$

Answer 7

