

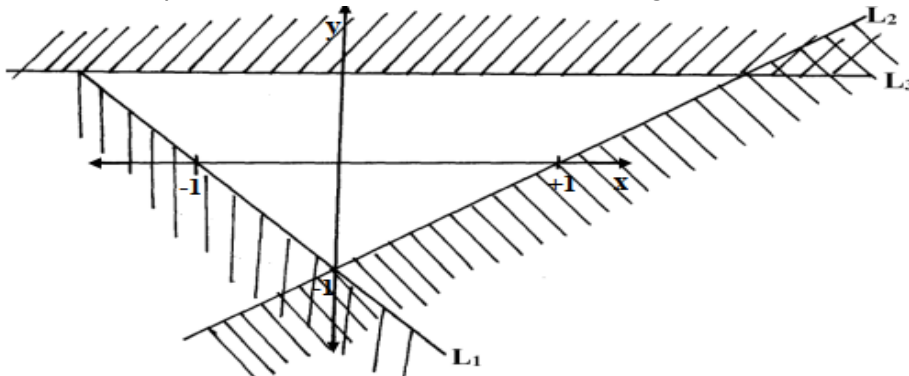
Linear Inequalities Questions and Answers - Form 2 Topical Mathematics

Questions

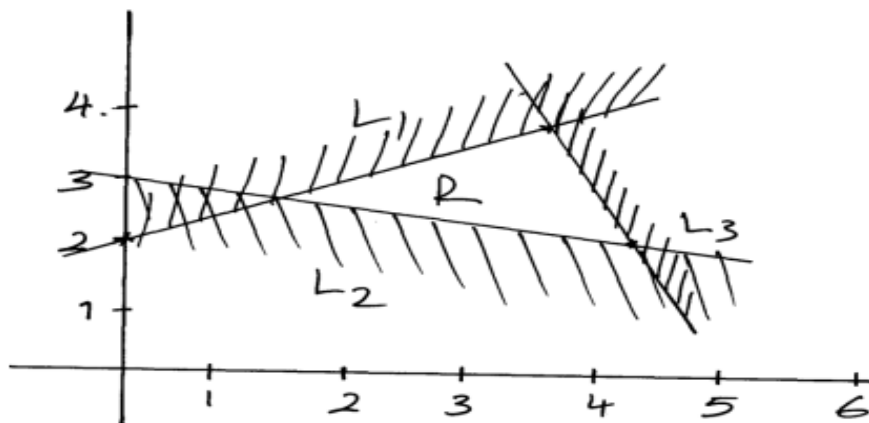
1. Find without using a calculator, the value of:

$$\frac{12\sqrt{0.0625} - 12.4 \div 0.4 \times 3}{\frac{1}{8} \text{ of } 2.56 + 8.68}$$

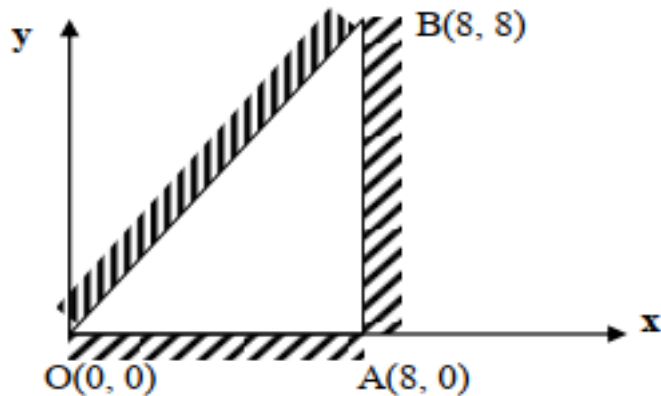
2. Solve and write down all the integral values satisfying the inequality.
 $x - 9 \leq -4 < 3x - 4$
3. Solve the inequality and show the solution on the number line.
 $3 - 2x < x < 2x + 5$
4. Show on a number line the range of all integral values of x which satisfy the following pair of inequalities
 $3 - x \leq 1 - \frac{1}{2}x$
 $-\frac{1}{2}(x-5) \leq 7-x$
5. Solve the inequalities $4x - 3 \leq 6x - 1 < 3x + 8$; hence represent your solution on a number line
6. Find all the integral values of x which satisfy the inequalities
 $2(2-x) < 4x - 9 < x + 11$
7. Find the inequalities that define the unshaded region



8. Given that $x + y = 8$ and $x^2 + y^2 = 34$
 Find the value of:-
 a. $x^2 + 2xy + y^2$
 b. $2xy$
9. Find the inequalities satisfied by the region labelled R



10. The region R is defined by $x \geq 0$, $y \geq -2$, $2y + x \leq 2$. By drawing suitable straight line on a sketch, show and label the region R
11. Find all the integral values of x which satisfy the inequality $3(1+x) < 5x - 11 < x + 45$
12. The vertices of the unshaded region in the figure below are $O(0, 0)$, $B(8, 8)$ and $A(8, 0)$. Write down the inequalities which satisfy the unshaded region



Answers

1. $12 \times 0.25 - 12.4 \div 0.4 \times 3$

$$\frac{1}{8} \text{ of } 2.56 + 8.68$$

$$3 - 31 \times 3$$

$$0.32 + 8.68$$

$$^{-90}/_9$$

$$= -10$$

2. $x - 9 \leq -4 < 3x - 4$

$$x - 9 \leq -4$$

$$x \leq 5$$

$$3x - 4 > -4$$

$$3x > 0$$

$$x > 0$$

$$0 > x \leq 5$$

$$\{1, 2, 3, 4, 5\}$$

3. $x > 3 - 2x$

$$x \leq \frac{2x+5}{3}$$

$$3 - 2x < x$$

$$-2x < x - 3$$

$$-3x < -3$$

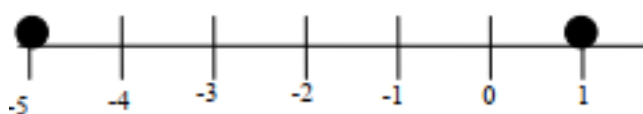
$$x < 1$$

$$2x + 5 \geq 3x$$

$$-x \geq -5$$

$$x \leq 5$$

$$-5 \leq x < 1$$



4. $3 - x \leq 1 - \frac{1}{2}x$