## 1. Linear inequalities

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

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

2. Solve and write down all the integral values satisfying the inequality.
$X-9 \leq-4<3 x-4$
3. Solve the inequality and show the solution on the number line.

$$
3-2 x<x \leqslant 2 x+5
$$

4. Show on a number line the range of all integral values of $x$ which satisfy the following pair of inequalities: $\quad 3-x \leq 1-1 / 2 x$

$$
-1 / 2(x-5) \leq 7-x
$$

5. Solve the inequalities $\mathbf{4 x}-\mathbf{3} \leq \mathbf{6 x}-\mathbf{1}<\mathbf{3 x}+\mathbf{8}$; hence represent your solution on a number line
6. Find all the integral values of $\mathbf{x}$ which satisfy the inequalities $2(2-x)<4 x-9<x+11$
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:- $\quad$ a) $x^{2}+2 x y+y^{2}$
b) $2 x y$
9. Find the inequalities satisfied by the region labelled $\mathbf{R}$

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


