

10:09 | Graphing Inequalities

Name: _____

Class: _____

Examples

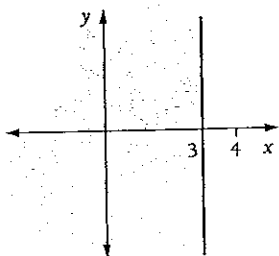


- A broken line indicates that it is not a part of the region (ie the inequation has $<$ or $>$ but not $=$).
- Test a point that is definitely *not* on the line.

Graph these inequalities.

1 $x \leq 3$

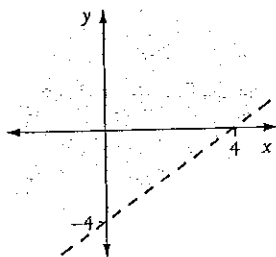
Draw $x = 3$.



< 3 is left of line.
Shade left side of line.
 $= 3$ means solid line.

2 $x - y < 4$

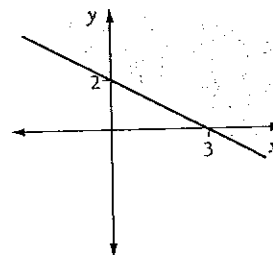
Draw $x - y = 4$.



Test $(0, 0)$.
 $0 - 0 < 4$ True
Shade $(0, 0)$ side of line.
 < 4 only, so broken line.

3 $2x + 3y \geq 6$

Draw $2x + 3y = 6$

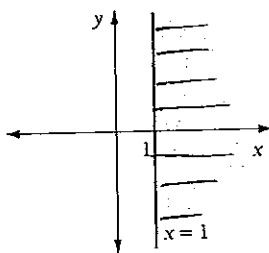


Test $(0, 0)$.
 $0 + 0 \geq 6$ False
Shade other side of line.
 $= 6$, so solid line.

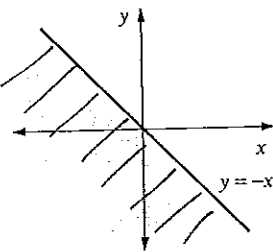
Exercise

1 Write down the inequality that describes each region.

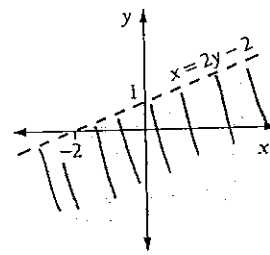
a



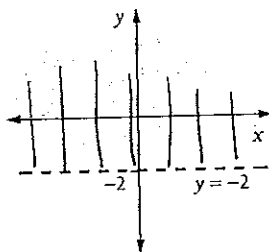
b



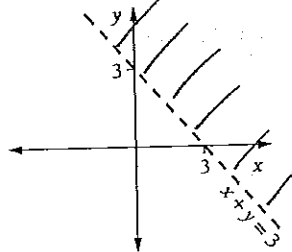
c



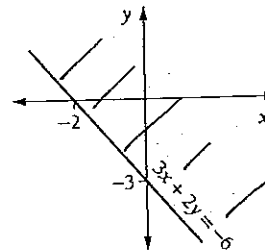
d



e



f



2 Graph these inequalities.

a $y < 2$

b $y \geq x - 2$

c $x + 3y \geq 3$

d $3x - 4y \leq 12$

e $y < 4 - x$

f $x \geq -2$

g $2x - y < 4$

h $x \leq -y - 1$

10:09 Graphing Inequalities

1 a $x \geq 1$

b $y \leq -x$

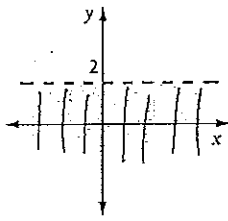
c $x > 2y - 2$

d $y > -2$

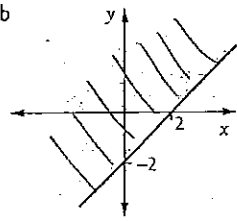
e $x + y > 3$

f $3x + 2y \geq -6$

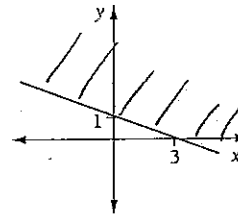
2 a



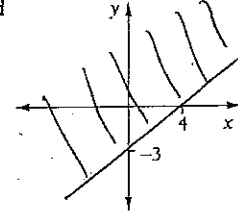
b



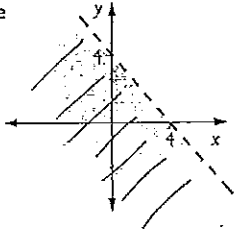
c



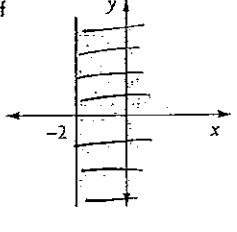
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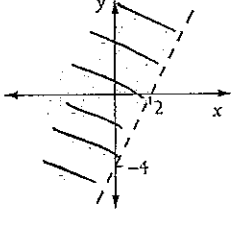
e



f



g



h

