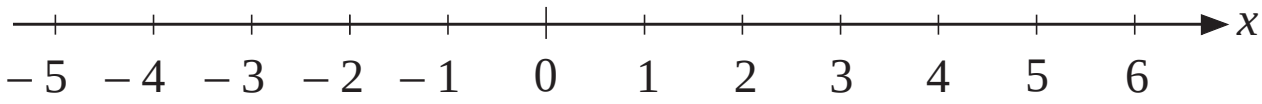
UNIT 16 *Inequalities* Overhead Slides

Overhead Slides

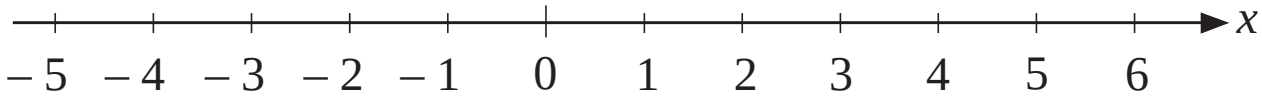
OS 16.1 *Inequalities on a Number Line*

Illustrate these inequalities on the number line and list the integer values which satisfy each one.

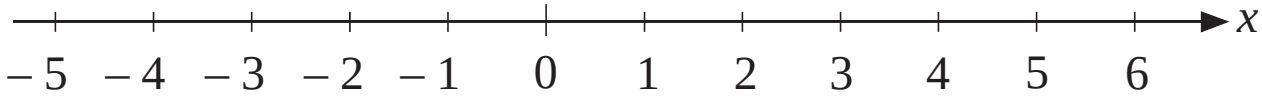
(1a $2 \leq x < 6$ { }



(b) $-3 < x < 4$ { }



(c) $-1 \leq x \leq 3$ { }

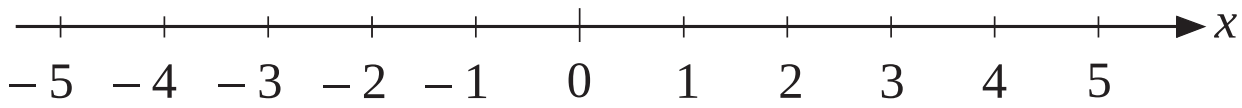


Which integer values of x satisfy all three inequalities? { }

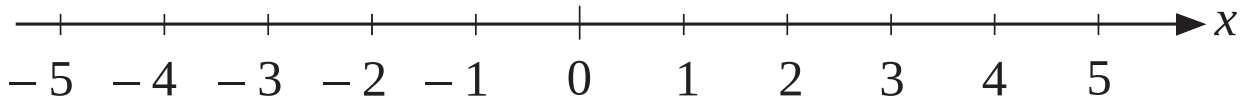
OS 16.2 *Solving Linear Inequalities*

Solve the following inequalities and illustrate each one on the number line.

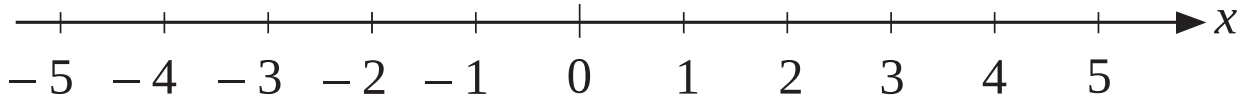
(a) $4(x-1) < 12$



(b) $5 - 2x \geq -1$



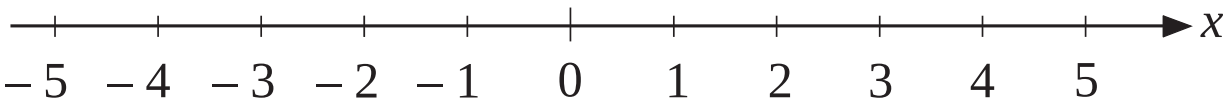
(c) $-4 \leq 2x + 2 \leq 6$



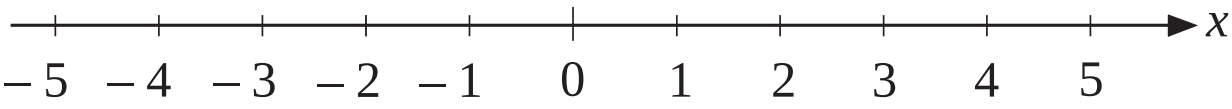
OS 16.3 *Inequalities Involving Quadratic Terms*

Solve the following inequalities and illustrate each one on the number line.

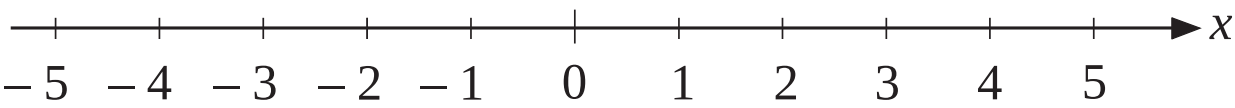
(a) $x^2 \leq 4$



(b) $x^2 - 7 \geq 2$

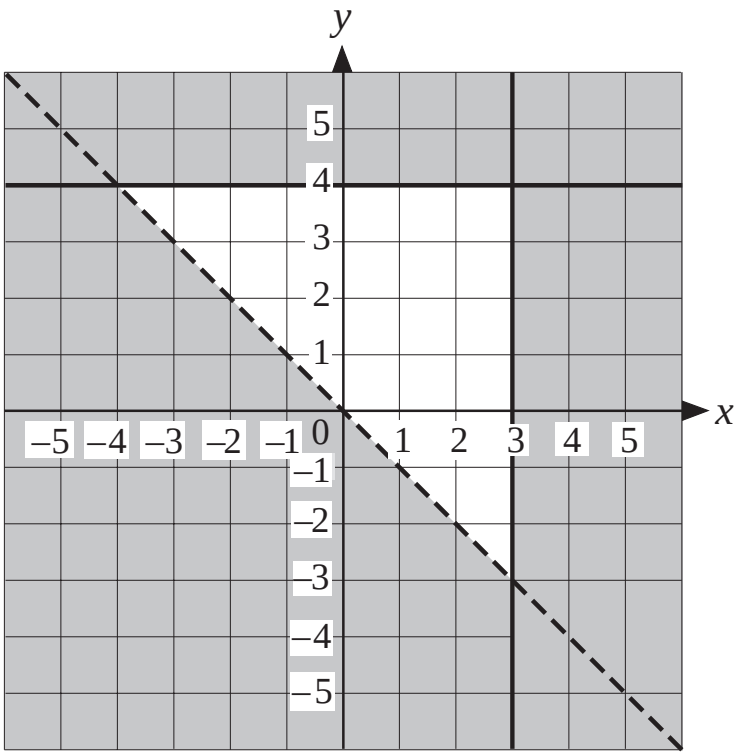


(c) $x^2 + x - 2 > 0$



OS 16.4 *Graphical Approach*

A In the diagram below, find the three inequalities which define the *unshaded* region.



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B Find the region satisfied by the inequalities:

$y \geq 2$

$y \geq -5x + 5$

$y \leq -x + 5$