

# Solving Inequalities (B)



**Section A** Solve the following inequalities.

1)  $5x + 4 \leq 14$

7)  $6x + 15 \geq 9x$

2)  $6x - 1 > 23$

8)  $5x - 11 > 3x + 9$

3)  $\frac{11x + 22}{2} \leq 33$

9)  $4(3x + 5) < 5(2x + 5)$

4)  $\frac{6x}{8} - 5 < 4$

10)  $\frac{7x + 4}{3} \leq x + 12$

5)  $3(4x + 2) > 9$

11)  $4 \leq x + 2 < 17$

6)  $\frac{2(2 + 5x)}{8} \leq 3$

12)  $6 \leq \frac{3(2x - 5)}{10} \leq 12$

**Hint:**  
Solve separately!

**Section B** Solve the following inequalities.

1)  $7 - 3x > 25$

7)  $7x - 7 < 5x + 15$

2)  $1 - 5x \leq 41$

8)  $-12x - 3 \leq -2x + 47$

3)  $2 - \frac{x}{5} \geq 8$

**Hint:**  
Be careful when  
multiplying or dividing  
by negatives!

9)  $9(6 - 2x) > 2(2 - 7x)$

4)  $3 - 7x \leq -11$

10)  $-5 \leq -2x < 10$

5)  $9x - 7 < -34$

11)  $4x - 10 \leq 2(x - 1) < 8 + 3x$

6)  $\frac{2(6 - 2x)}{4} \leq 12$

12)  $-12 \leq \frac{4(2 - x)}{3} \leq \frac{3x - 6}{4}$

# Solving Inequalities (B)



## Section C

Find the greatest or smallest integer value of  $n$ . Calculator allowed.

	Greatest integer value of $n$
$4n + 5 < 1$	
$1 - 18n > 10$	
$n^2 < 99$	

	Smallest integer value of $n$
$n^{-1} < \frac{1}{10}$	
$\left(\frac{1}{5}\right)^n < \frac{1}{125}$	

## Extension:

Choose one of the inequalities below and solve it ( $x$  is an integer value).

$$50 < 2^x < 1000$$

$$-\frac{1}{y} \geq -\frac{3}{4}$$