

Inequalities

Remember, you must never end up with negative x terms!

1 Solve the following single inequalities:

(i) $3x - 4 < 17$

(ii) $6x + 9 > 28$

(iii) $7 \geq 2x - 8$

(iv) $7x - 5 \leq 22 - 2x$

(v) $3(2x - 1) > 2x - 15$

(vi) $12 - 3x < 5$

(vii) $x + 2 \leq 5x - 7$

(viii) $7(x - 5) \geq 2x$

(ix) $4 > 9 - 5x$

(x) $-3x < 2x - 12$

2 Solve the following double inequalities. State the integer values that satisfy the inequalities.

(i) $2 < 3x - 4 < 17$

(ii) $12 \leq 5x - 3 < 27$

(iii) $-3 < 3x - 6 < 9$

(iv) $-7 \leq 4x + 5 < 20$

(v) $5 < 5x - 4 < 7$

(vi) $-9 \leq 3x - 2 \leq 6$

3 (i) Solve the following inequality: $3x - 2 > 17 - 2x$

(ii) What is the least integer that satisfies this inequality?