

(15) Linear Inequalities

WORKING AT D/E

(1) Solve the inequality:

$$3x - 4 < 8 - x$$

(2) (a) On a number line draw represent the following **two** inequalities individually:

$$2x < 10 \text{ and } x \leq -1$$

(b) Hence, write down the integers that satisfy both $2x < 10$ and $x \leq -1$

(3) Solve the inequality:

$$-0.1x \leq 5$$

WORKING AT B/C

(1) Solve the inequality:

$$3 - \frac{4x}{2} > -3$$

(2) Solve the inequation $x(x - 1) < x^2 - 8$

(3) Find the set of values of x that satisfy both

$$3 - 6x \leq 0 \text{ and } -8 < 2x + 14 < 24$$

WORKING AT A*/A

(1) Given that there are no values that satisfy BOTH $2kx \leq 1$ and $3(4x - 8) \geq x$

Find the set of values for the positive constant k

(2) Given that k is a negative constant, find the set of values of x such that $6 \leq kx + 1 < 10$ giving your answer in terms of k .