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## A LEVEL MATHS

## (16) Quadratic Inequalities

### WORKING AT D/E

(1) Find the set of values that satisfy

$$x^2 - x - 6 < 0$$

(2) Find the set of values that satisfy

$$x^2 + 8x + 12 \geq 0$$

(3) Find the set of values that satisfy

$$x^2 \geq 4$$

### WORKING AT B/C

(1) Find the set of values that satisfy $-x^2 < x - 12$

(2) Find the set of values that satisfy both

$$6x^2 \leq 17x + 3 \underline{\textbf{ and }} 4 \geq 2x$$

(3) Find the set of values that satisfy both

$$x^2 \leq 12 \underline{\textbf{ and }} x^2 > x$$

Give your answer as an inequality in exact form.

### WORKING AT A*/A

(1) Given that there are no common values of $x$ that satisfy both $6x^2 + x - 1 \leq 0$ and $2x > k$ where $k$ is a constant, find the set of values of $k$.

(2) Find the set of values of $x$ such that $\frac{4}{x} > 2$

(3) Find the set of values such that $\frac{8}{x+1} \leq 1$