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| **Solving Quadratic Inequalities in Context** |
| **(a)** | **(b)** |
| A rectangle has sides of length $x cm$ and width $(x-3) cm$, as shown. If the area of the rectangle is greater than $10 cm^{2}$:(i) Show that $x^{2}-3x-10>0$(ii) Find the range of possible values of $x$.  | A cuboid has dimensions of $3 cm$, $(x-1) cm$ and $(x-3) cm$, as shown. If the volume of the cuboid is greater than$ 45 cm^{3}$:(i) Show that $x^{2}-4x-12>0$(ii) Find the range of possible values of $x$. |
| **(c)** | **(d)** |
| Given that the area of the rectangle is greater than the area of the triangle, find the range of possible values of $x$. | A rectangular lawn has a length of $\left(2x+1\right) m$ and a width of $\left(x+4\right) m$, as shown. Given that the area of the lawn is less than $49 m^{2}$, find the range of possible values of $x$. |