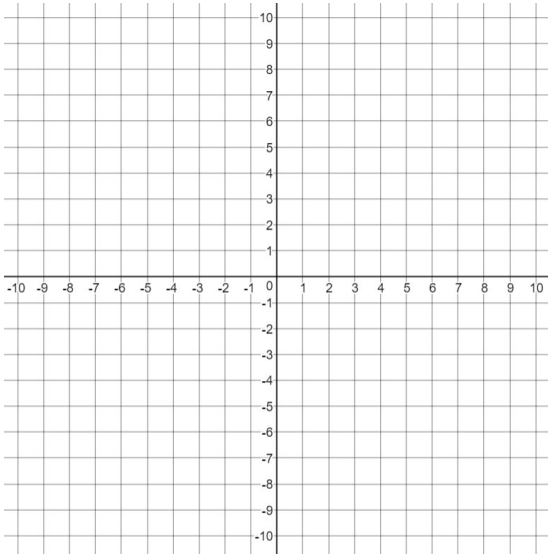


1) Simplify

$$\text{a) } \frac{6x}{x-5} - \frac{240}{x^2-2x-15}$$

2) Solve graphically

$$\text{a) } -x^2 + 4x + 5 \leq 0$$



Solve

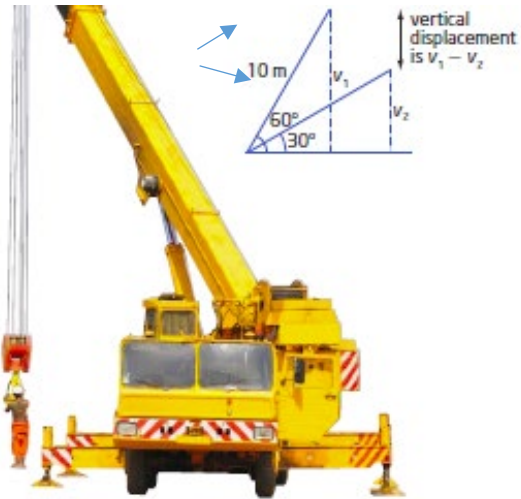
$$\text{b) } \frac{1}{x} + \frac{1}{x-3} = \frac{x-2}{x-3}$$

Solve algebraically

$$\text{b) } -x^2 + 4x + 5 \leq 0$$

3) A 10m crane arm lifts material on to a roof.

Determine the EXACT VALUE ratio of the vertical displacement of the end of the boom when the operator lowers it from 60° to 30° .



4) Prove the following without the use of a calculator

(hint: it involves special angle triangles)

a) $\cos 135^\circ = \sin 225^\circ$

5) Find the perimeter of this triangle.

