

**6** The variables  $x$ ,  $y$  and  $z$  can take only positive values and are such that

$$z = 3x + 2y \quad \text{and} \quad xy = 600.$$

**(i)** Show that  $z = 3x + \frac{1200}{x}$ . [1]

**(ii)** Find the stationary value of  $z$  and determine its nature. [6]