

**4th October**

Corbettmaths

Find the range of values of  $x$  that satisfies both

$$x^2 + 2x - 15 \leq 0 \text{ and } x^2 < 16$$

$$x : y = 2 : 7$$

$$y : z = 5 : 13$$

Write  $x$  in terms of  $z$

Expand and simplify

$$\left(x^3 + \frac{1}{x^2}\right)\left(x - \frac{1}{x^2}\right)$$

The unit square  $OABC$  is transformed by a reflection in the  $x$ -axis followed by enlargement scale factor 2, centre the origin.

What is the matrix of the combined transformation?