



4 (c) (i)

Construct a square *OABC* with side of length 4 cm. **STEP 1**. Using a ruler draw a side *OA* of length 4 cm.

STEP 2. Place the right-angle of a set square on point *O* and draw a light line. Do the same at point *A*.

STEP 3. Using the ruler draw a line, *OC*, of length 4 cm from point *O* through the light line. Do the same at point *A* drawing line *AB*.

STEP 4. Complete the square by joining *C* to *B* to form line *CB*. Using your set square, make sure all the angles are right-angled. Using your ruler, make sure each side is of length 4 cm.



4 (c) (ii)

Scale factor k = 2.5.

The lengths of the image of each side $2.5 \times 4 = 10$ cm



NOTE: All lengths shown are approximate. When you are doing the question the lengths must be the exact measure.

4 (c) (iii)

Area of the image square = $10 \text{ cm} \times 10 \text{ cm} = 100 \text{ cm}^2$

Area of the original square = $4 \text{ cm} \times 4 \text{ cm} = 16 \text{ cm}^2$

Area of image square : Area of original square = 100:16 = 25:4

4 (c) (iv)

k = ?Area of image square $OPQR = 324 \text{ cm}^2$ Area of object square $OABC = 16 \text{ cm}^2$

$$k^2 = \frac{\left| \text{Image area} \right|}{\left| \text{Object area} \right|}$$

$$k^{2} = \frac{324}{16} = \frac{81}{4} \Longrightarrow k = \sqrt{\frac{81}{4}} = \frac{9}{2} = 4.5$$