

15th August

Higher Plus 5-a-day



Corbettmaths

Work out

$$\left(\frac{8}{27}\right)^{-\frac{2}{3}}$$

$$\begin{aligned} \sqrt[3]{8} &= 2 & 2^2 &= 4 \\ \sqrt[3]{27} &= 3 & 3^2 &= 9 \\ & & & \frac{9}{4} \end{aligned}$$

Bag A contains $2x$ coins
Bag B contains $7x$ coins

45 coins are taken from Bag B and put into Bag A

The ratio of coins in Bag A to Bag B is now 11:25

Work out the total number of coins.

$$\begin{aligned} 25(2x + 45) &= 11(7x - 45) \\ 50x + 1125 &= 77x - 495 \\ 1620 &= 27x \\ x &= 60 & 9 \times 60 &= 540 \\ & & & = \end{aligned}$$

Here is quadrilateral ABCD

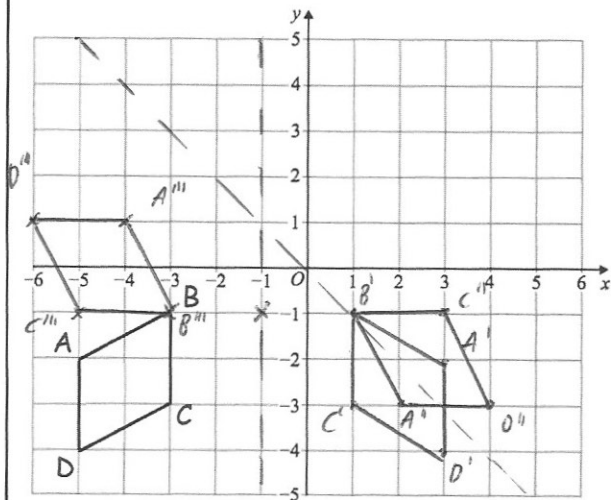
ABCD is reflected in the line $x = -1$

followed by a reflection in the line $y = -x$

followed by a rotation of 180° about $(-1, -1)$

Which of the vertices are invariant?

~~A~~ B



Make c the subject of

$$\frac{3}{abc} = 8 - \frac{7}{ab}$$

$$\frac{3}{abc} = \frac{8ab - 7}{ab}$$

$$\frac{3}{c} = \frac{ab(8ab - 7)}{ab}$$

$$3 = c(8ab - 7)$$

$$c = \frac{3}{8ab - 7}$$