Question 1 (4 Marks)

The table shows a set of values for x and y.

x	1	2	3	4
y	9	$2\frac{1}{4}$	1	$\frac{9}{16}$

y is inversely proportional to the square of x.

(a) Find an equation for y in terms of x.

....

(2)

(b) Find the positive value of x when $y = 16$

....

(2)

Question 2 (4 Marks)

(a) Write down the value of 7^0

....
                                              (1)

(b) Find the value of $3 \times 3^6 \times 3^{-6}$

....
                                              (1)

(c) Find the value of 2^{-4}

....
                                              (1)

(d) Find the value of $27^{\frac{1}{3}}$

....
                                              (1)

Question 3 (3 Marks)

Express $0.1\dot{1}\dot{7}$ as a fraction.
You must show all your working.

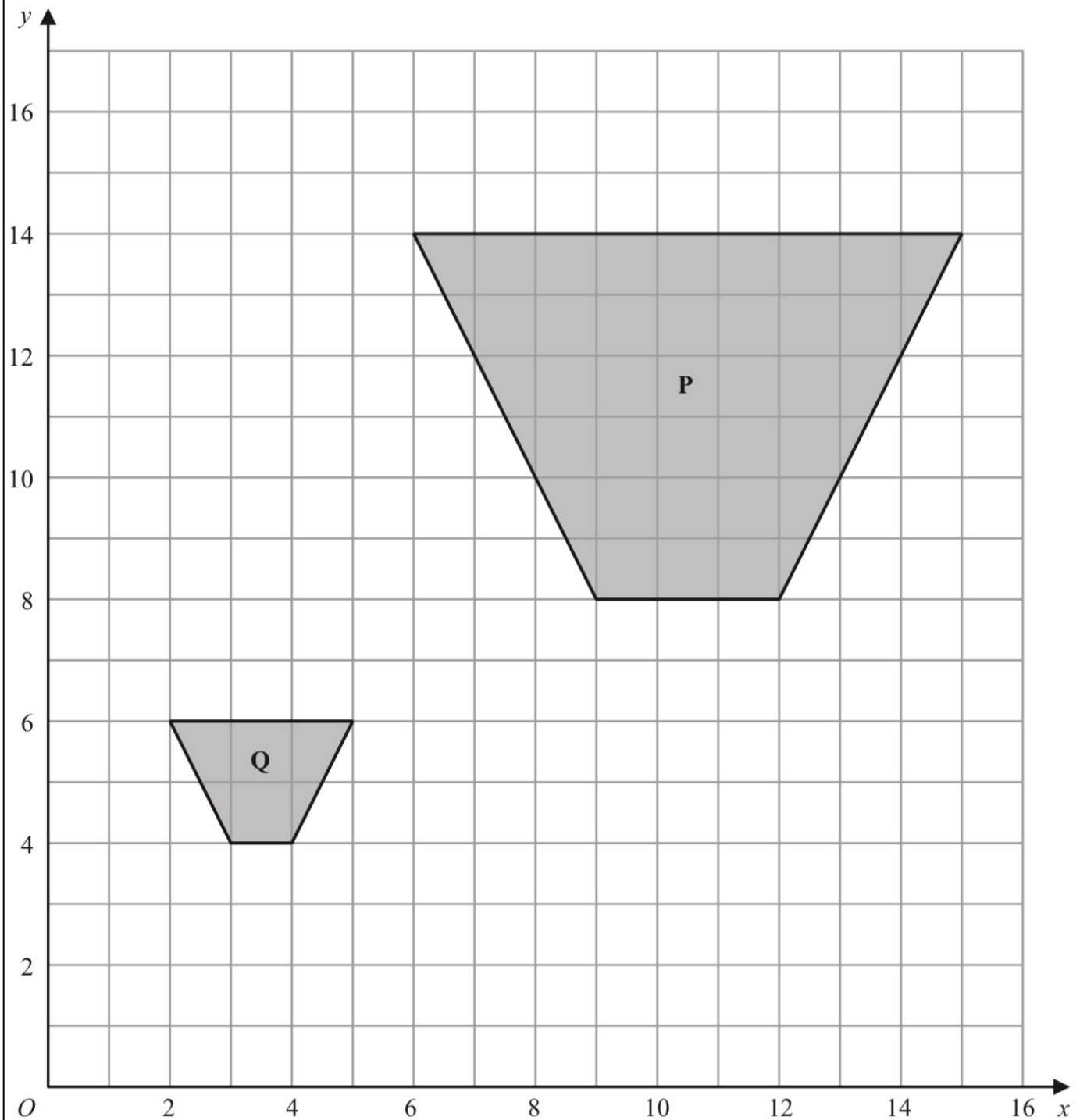**Question 4 (2 Marks)**

There are p counters in a bag.
12 of the counters are yellow.

Shafiq takes at random 30 counters from the bag.
5 of these 30 counters are yellow.

Work out an estimate for the value of p.

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Question 5 (2 Marks)

Describe fully the single transformation that maps shape **P** onto shape **Q**.

....

....

....

(Total 15 Marks)