

- 8 The table shows information about the grades some Year 9 students gained in a biology test and in a physics test. The highest grade is **A** and the lowest grade is **D**.

		Biology				
		Grades	A	B	C	D
Physics	A	8	6	2	1	
	B	3	5	4	0	
	C	4	2	6	2	
	D	0	0	5	0	

- (a) How many students gained a grade **C** in biology?

.....
(2)

- (b) How many students gained the same grade in biology as they gained in physics?

.....
(2)

- (c) How many students gained a higher grade in biology than they gained in physics?

.....
(2)

(Total for Question 8 is 6 marks)

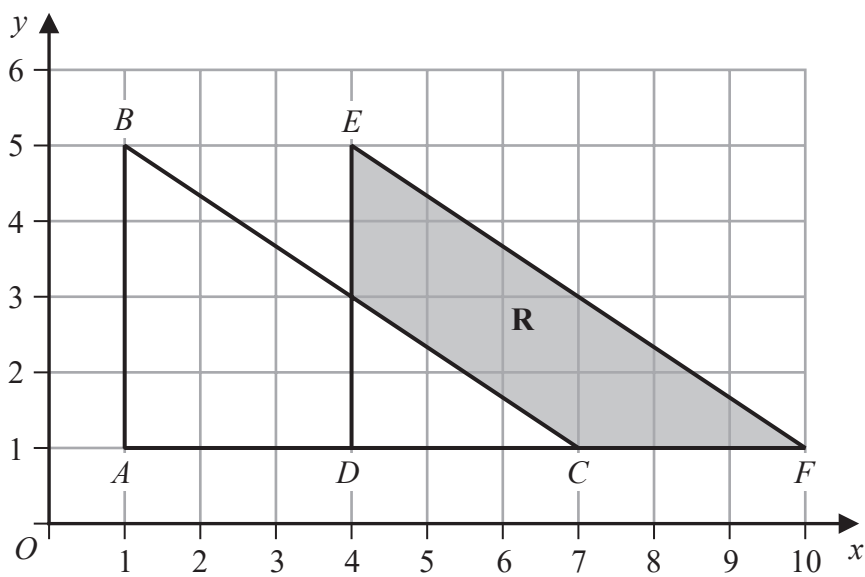


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9 The diagram shows two congruent triangles, ABC and DEF , drawn on a centimetre grid.



Find the area of the region **R**, shown shaded in the diagram.

..... cm²

(Total for Question 9 is 3 marks)



10 (a) Show that $\frac{3}{10} \div \frac{1}{4} = \frac{6}{5}$

(2)

(b) Show that $\frac{5}{6} - \frac{3}{4} = \frac{1}{12}$

(2)

(Total for Question 10 is 4 marks)

11 (a) Use your calculator to work out the value of $\frac{2.14^3 - 3.76}{\sqrt{1.24}}$

Write down all the figures on your calculator display.

.....
(2)

(b) Write your answer to part (a) correct to 2 significant figures.

.....
(1)

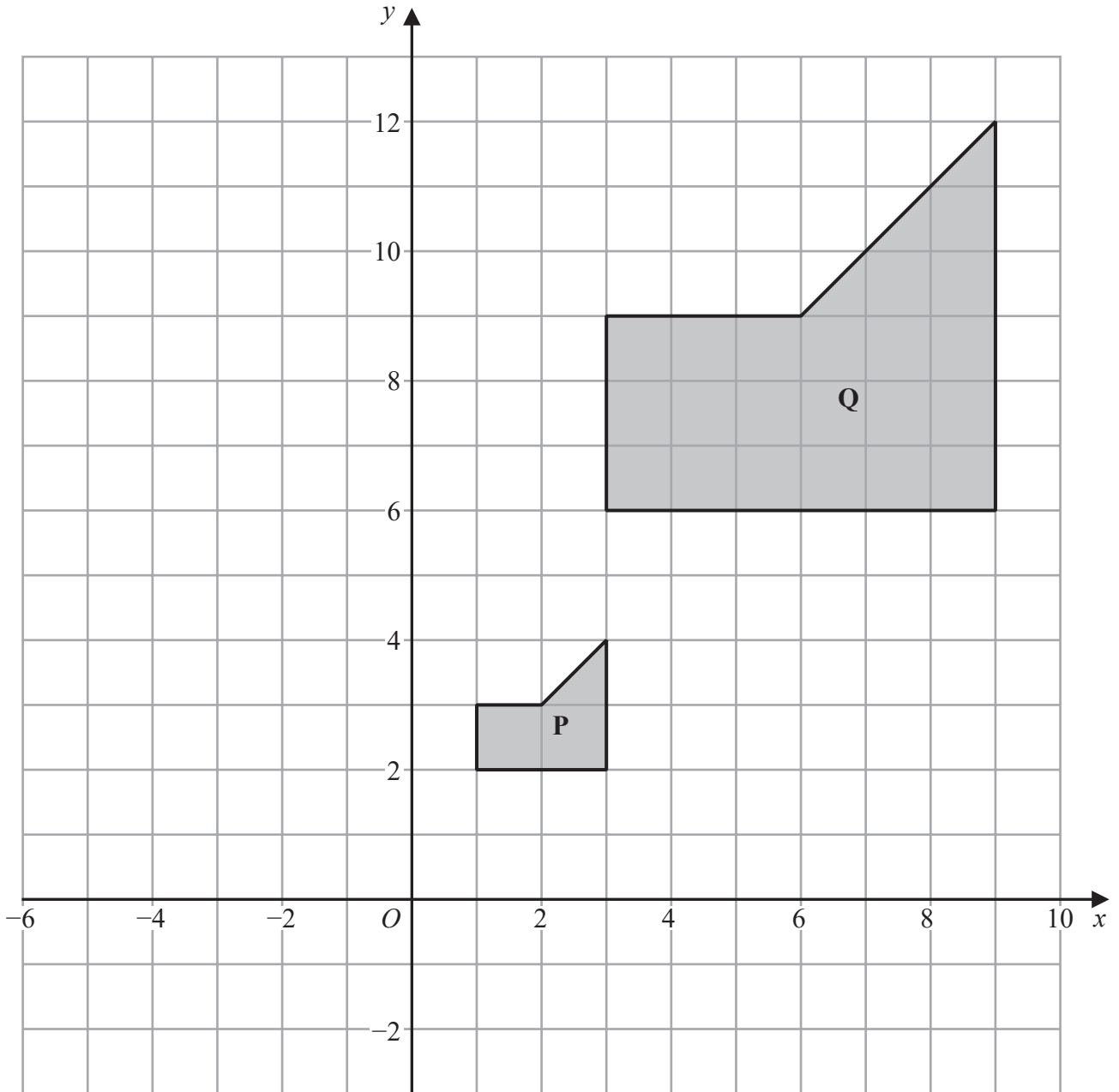
(Total for Question 11 is 3 marks)

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

.....

.....

.....

(3)

(b) On the grid, reflect shape **P** in the line with equation $x = 5$
Label your shape **R**.

(2)

(Total for Question 12 is 5 marks)



13 (a) Simplify $e^8 \div e^2$

.....
(1)

(b) Expand and simplify $(x - 3)(x + 1)$

.....
(2)

(Total for Question 13 is 3 marks)

14 Here is a right-angled triangle.

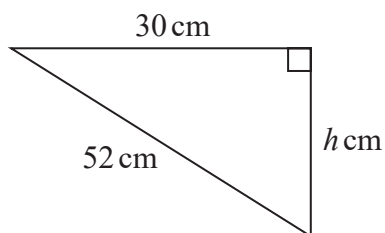


Diagram **NOT**
accurately drawn

Calculate the value of h .

Give your answer correct to 3 significant figures.

$h =$

(Total for Question 14 is 3 marks)



- 15 There are 54 fish in a tank.
Some of the fish are white and the rest of the fish are red.

Jeevan takes at random a fish from the tank.

The probability that he takes a white fish is $\frac{4}{9}$

- (a) Work out the number of white fish originally in the tank.

.....
(2)

Jeevan puts the fish he took out, back into the tank.
He puts some more white fish into the tank.

Jeevan takes at random a fish from the tank.

The probability that he takes a white fish is now $\frac{1}{2}$

- (b) Work out the number of white fish Jeevan put into the tank.

.....
(2)

(Total for Question 15 is 4 marks)

