## Translations

1


Describe the translations
a) From $P$ to $Q$ is

b) From $Q$ to $R$ is $\square$ squares right and $\square$ squares up
c) From R to S is squares left and $\qquad$ squares up
d) From S to P is
e) From $Q$ to $P$ is

From $R$ to $Q$ is
g) From $S$ to $R$ is
h) From $P$ to $S$ is
$\qquad$ and

$\qquad$
$\qquad$
$\square$ ,
$\qquad$ and
 $\square$
$\qquad$
$\square$

$$
1
$$

(2)



Do you agree with Tiny? $\qquad$
Explain your answer.
(3) Translate the triangle 6 squares left.


These coordinates form a quadrilateral: $(-5,5),(-5,1),(-1,2),(-1,4)$. It is translated 3 squares right and 4 squares down. Draw the quadrilateral on the grid in its new position.


5


Which triangles are translations of each other?

6 A triangle is drawn on the coordinate grid.

a) Translate the triangle 9 squares right and 1 square down.
b) Tick the correct box for each point.

| Point | Inside the <br> new triangle | Outside the <br> new triangle | On the perimeter <br> of the new triangle |
| :---: | :---: | :---: | :---: |
| $(0,0)$ |  |  |  |
| $(4,-5)$ |  |  |  |
| $(2,-1)$ |  |  |  |
| $(-6,-3)$ |  |  |  |
| $(3,-4)$ |  |  |  |

7


This parallelogram has been translated 50 squares left and 25 down. What were the coordinates of all four vertices before it was translated?

