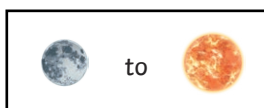


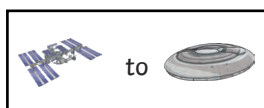
1) Describe the following translations:

a)



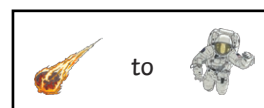
\_\_\_\_\_

b)



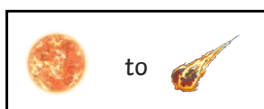
\_\_\_\_\_

c)



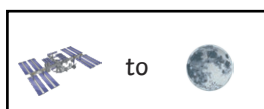
\_\_\_\_\_

d)



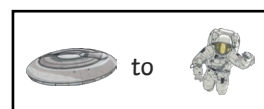
\_\_\_\_\_

e)



\_\_\_\_\_

f)



\_\_\_\_\_

2) Draw a new space object on the grid.

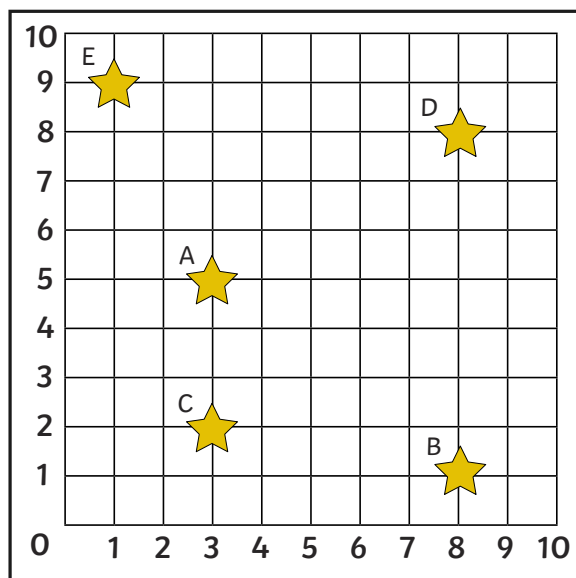
a) Describe the translation from the new space object to the astronaut.

\_\_\_\_\_  
\_\_\_\_\_

b) Describe the translation from the meteor to the new space object.

\_\_\_\_\_  
\_\_\_\_\_

A group of children are describing the translations of the stars on this grid. Decide if their statements are true or false. Explain your reasoning.



- 1) Kaspar says, 'The translation from D to E is 1 down and 7 right.'

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- 2) Veronica says, 'The translation from B to A is 6 left and 5 up.'

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- 3) Arthur says, 'The translation from C to D is 5 right and 6 up.'

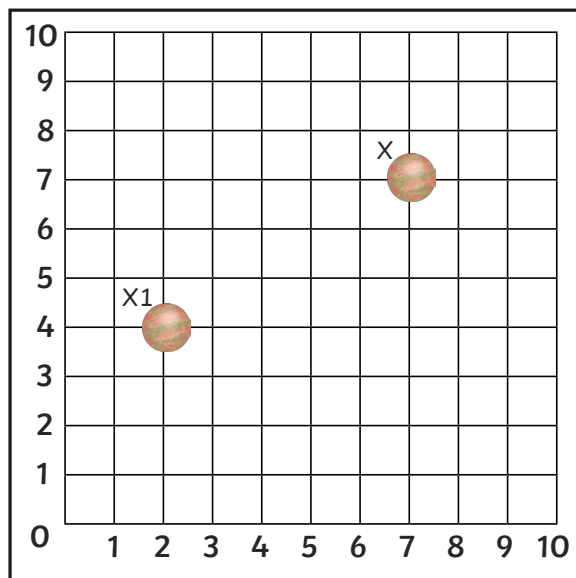
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- 4) Harriet says, 'The translation from E to B is 9 down and 8 right.'

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Planet X is translated left 4 and down 2. Its new position is labelled X1.

What do you notice about this translation?

Did you notice that the translation along the x-axis is double the translation along the y-axis?

How many more ways can you translate planet X so that the translation along the x-axis is double the translation along the y-axis?

Make sure you find all the possibilities.