

# MATHEMATICS



**N.S. Yr. 6 P.107**

**Recognise reflective symmetry in 2-D shapes.  
Reflections and translations.**

## Equipment

Paper, squared or patterned paper, pencil, ruler, mirror.

# MathSphere

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### **Concepts**

Children should know and be able to read, write and use the following words:

***Mirror line, line of symmetry, line symmetry, symmetrical, reflect, reflection, translation, axis of symmetry, reflective symmetry.***

If children need practice at spotting and drawing lines of symmetry, they should first complete module 5107.

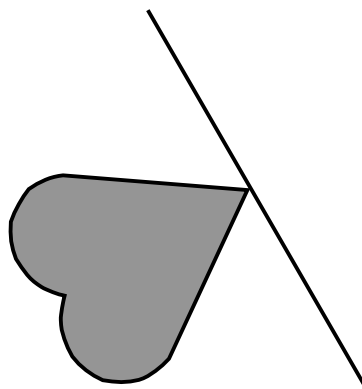
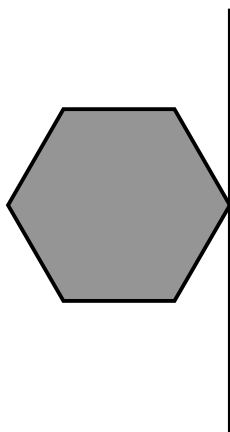
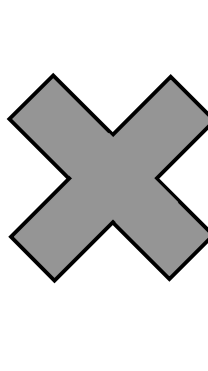
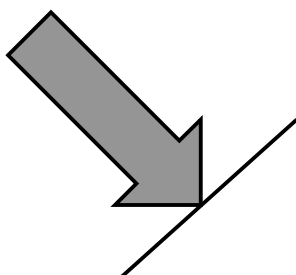
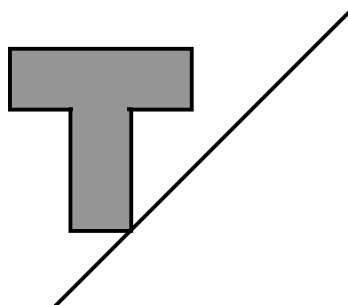
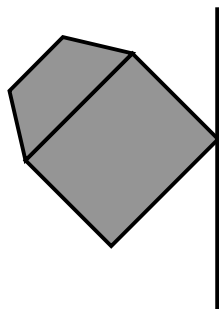
They should be able to test for symmetry using a mirror and by folding.

Children should be able to sketch the reflection of a simple shape in a mirror line where none or only some of the edges of the shape are parallel or perpendicular to the mirror line.

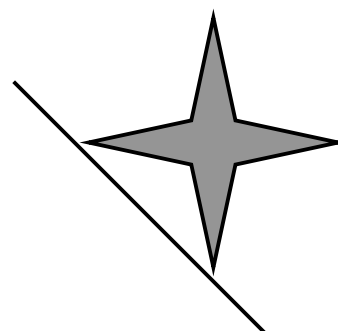
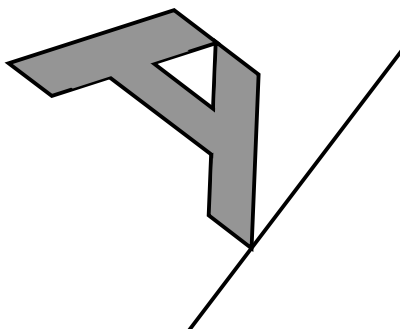
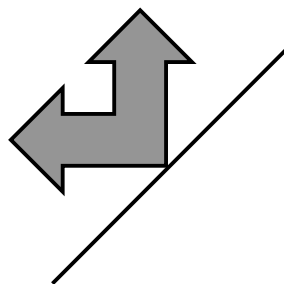
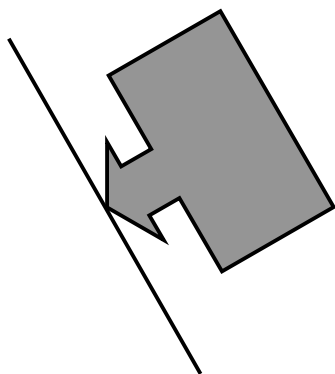
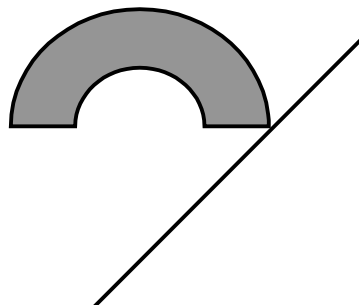
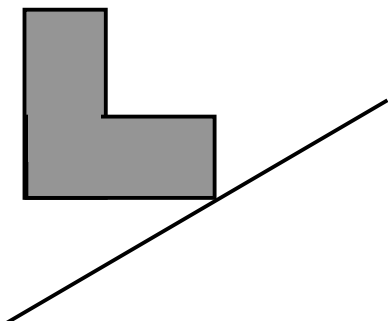
They should be able to complete a pattern using reflections in two mirror lines at right angles to each other, where the grid so formed is labelled with both positive and negative co-ordinates.

They should understand the concept of a translation (a simple slide) and be able to draw a shape after it has been translated on a set of co-ordinates.

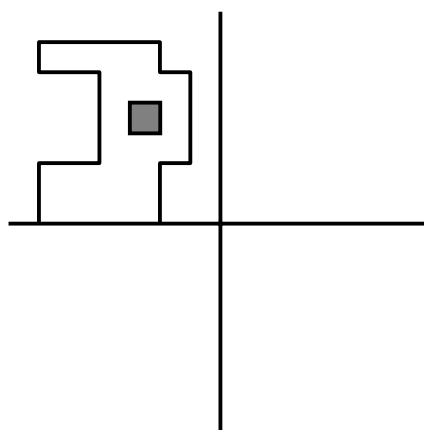
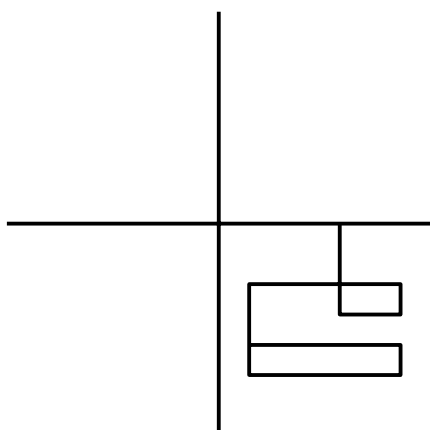
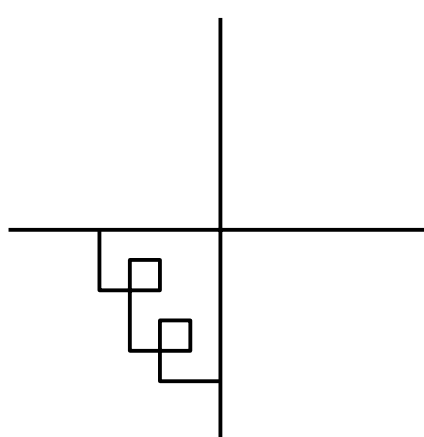
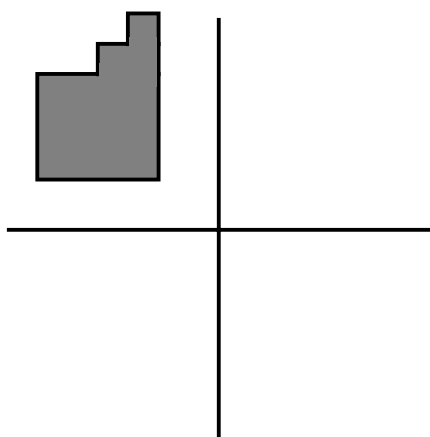
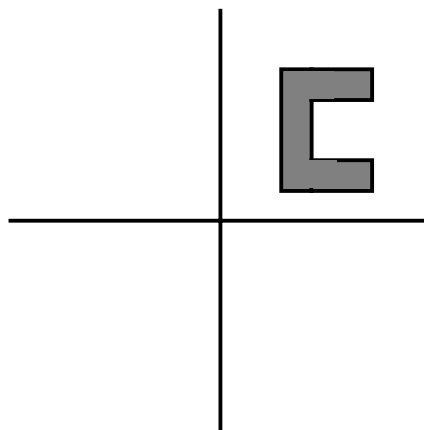
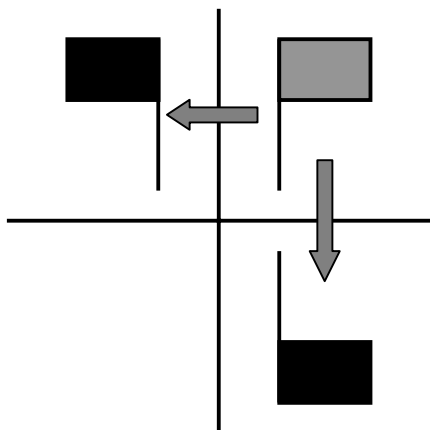
**1.** Sketch the reflection of the shapes in the mirror lines.



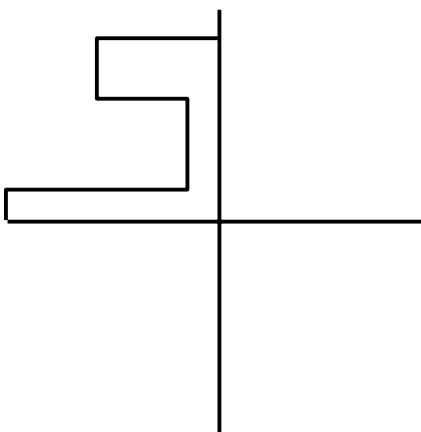
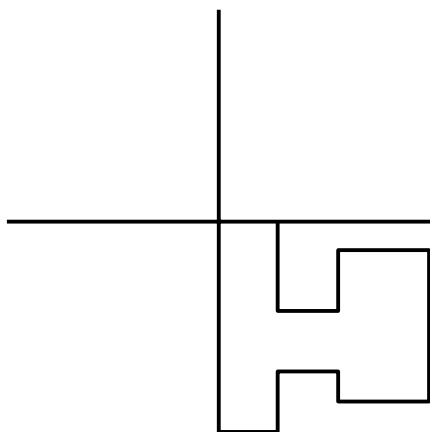
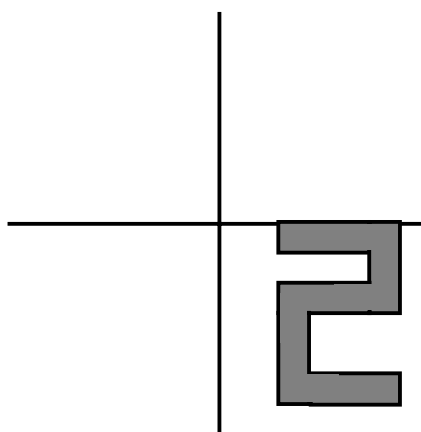
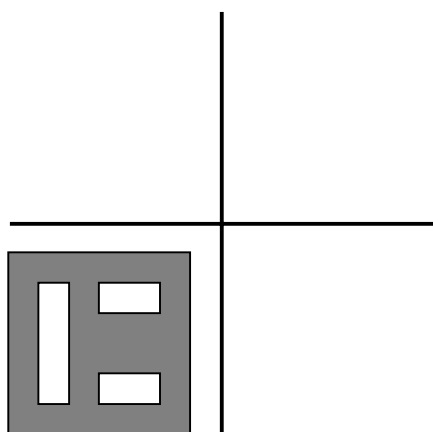
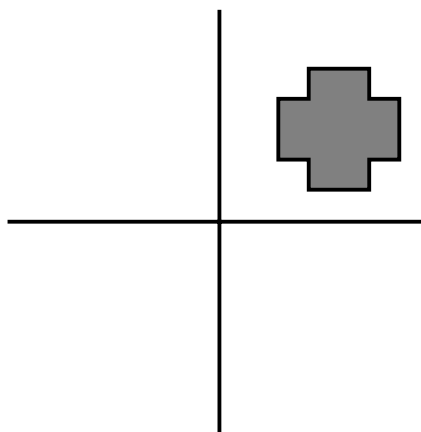
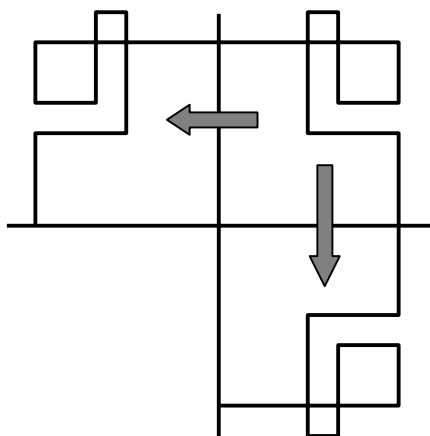
1. Sketch the reflection of the shapes in the mirror lines.



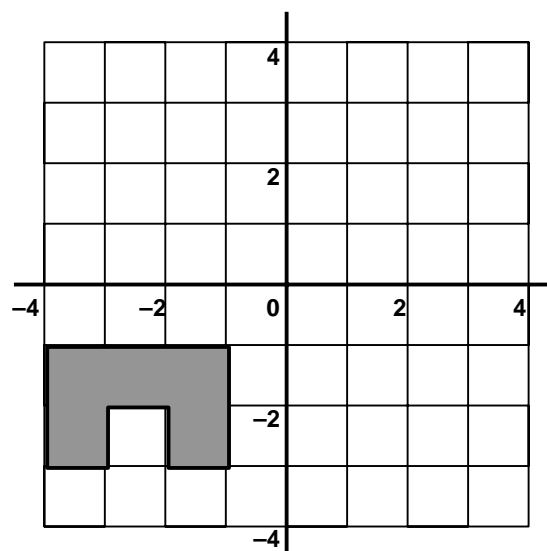
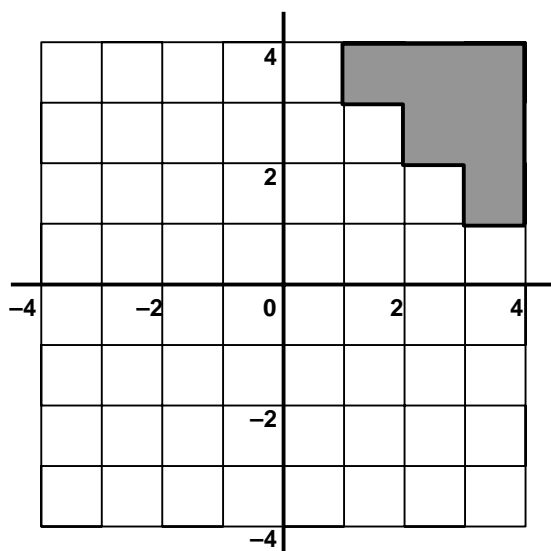
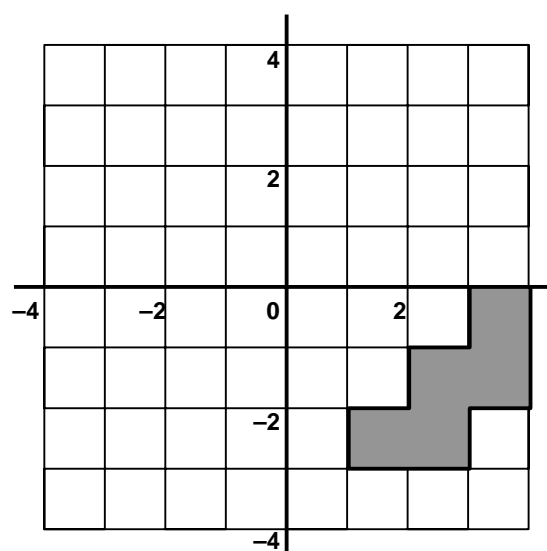
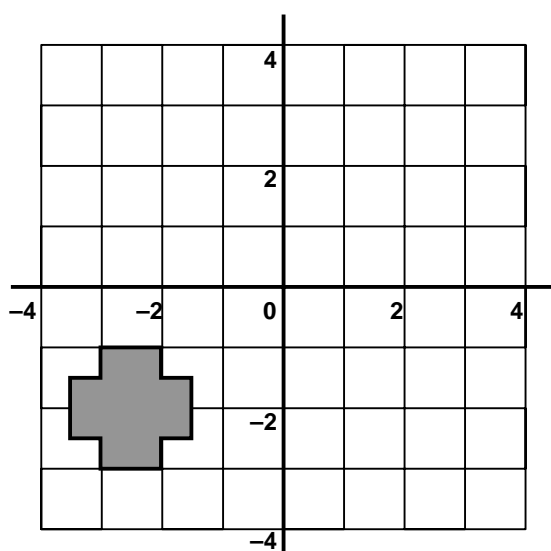
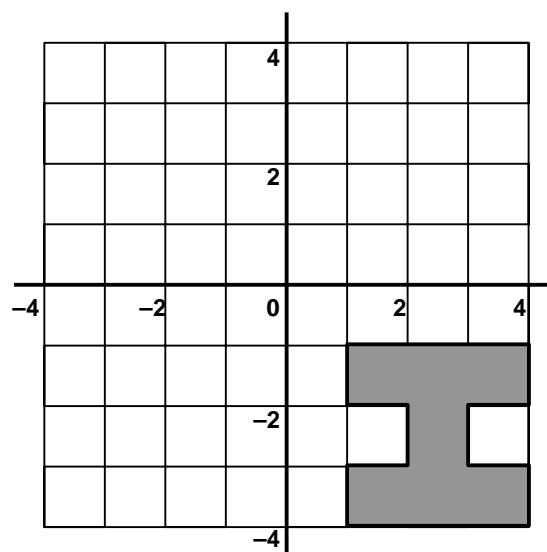
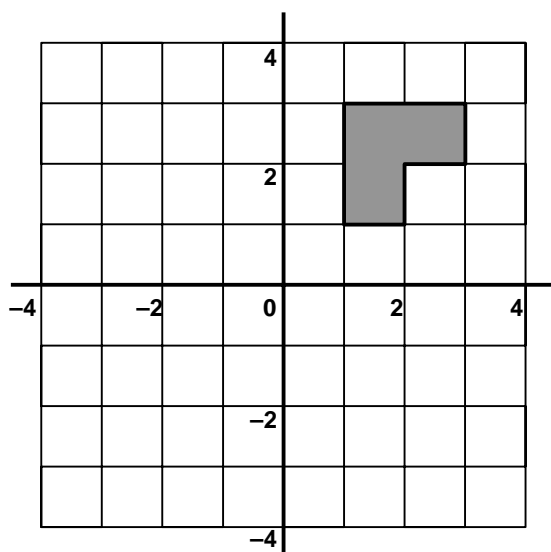
1. Reflect the following shapes in both mirror lines. The first one is done for you.



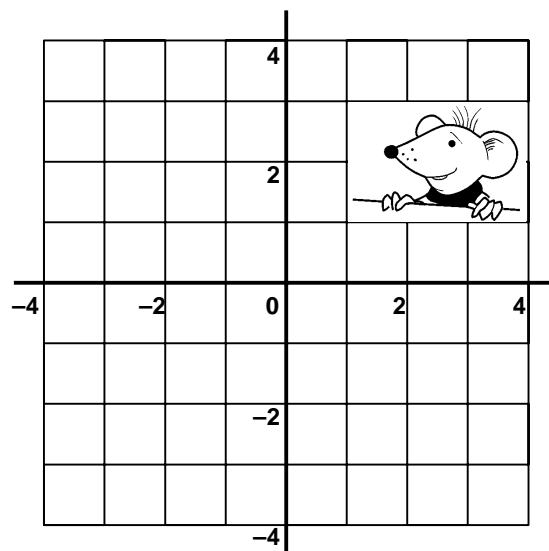
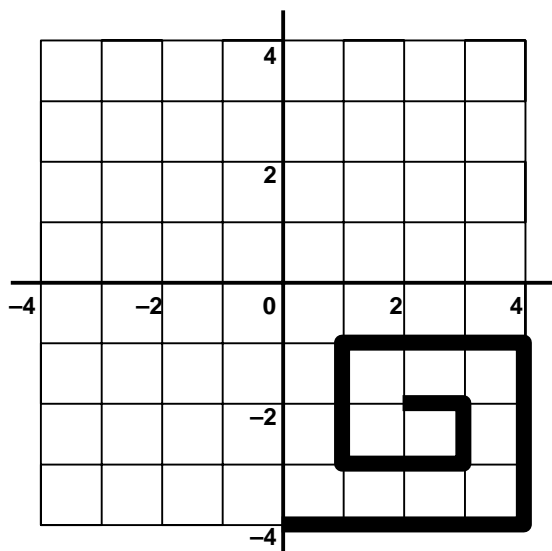
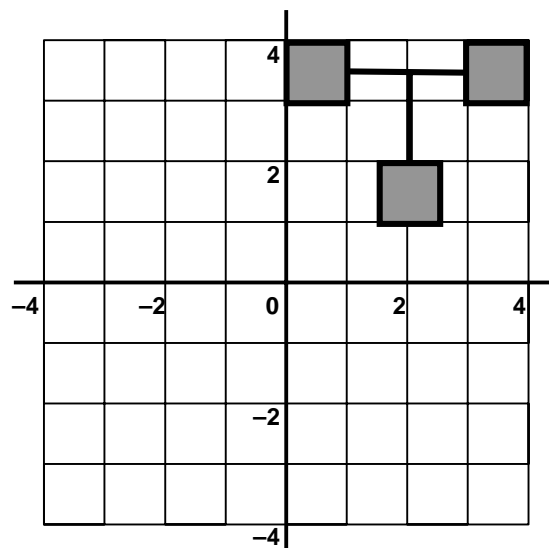
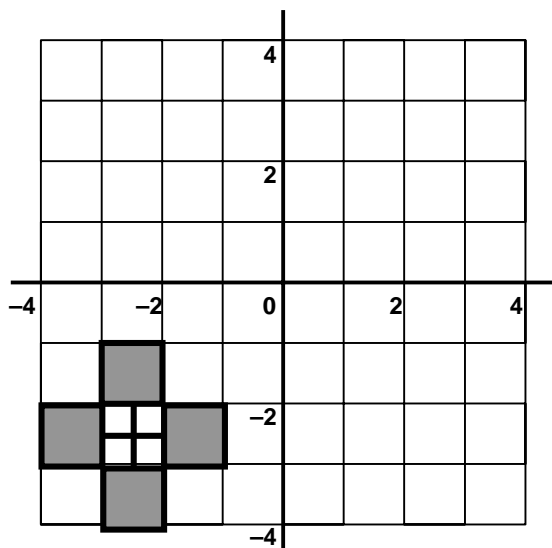
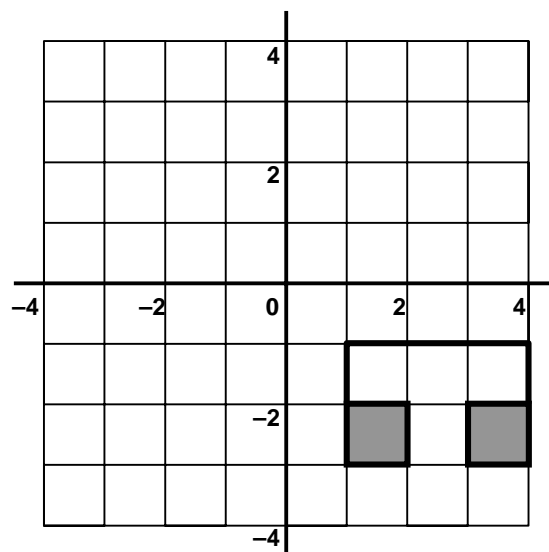
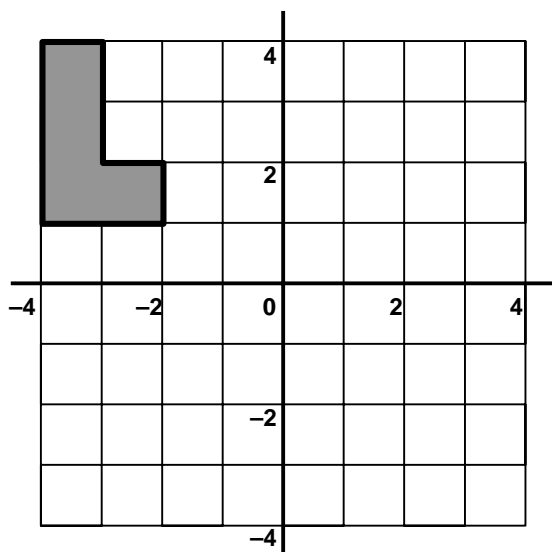
1. Reflect the following shapes in both mirror lines. The first one is done for you.



1. Reflect the following shapes in both mirror lines.

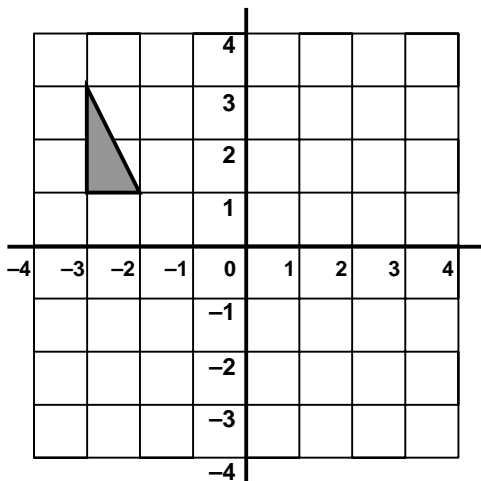


1. Reflect the following shapes in both mirror lines.

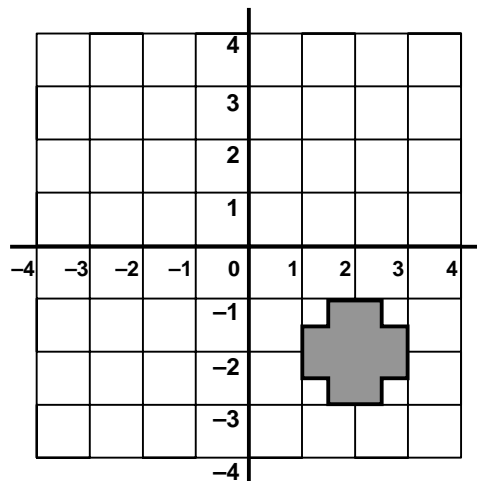




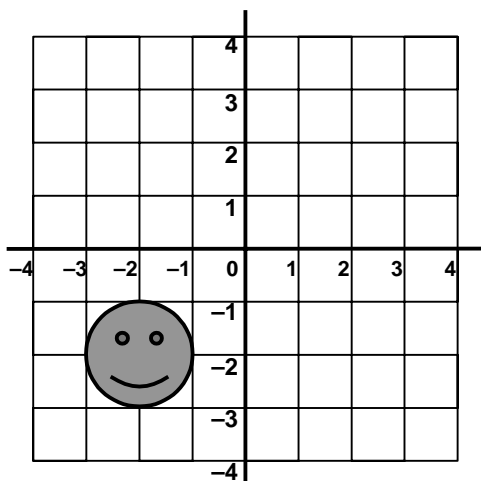
**1. Translate the shapes by the amount shown:**



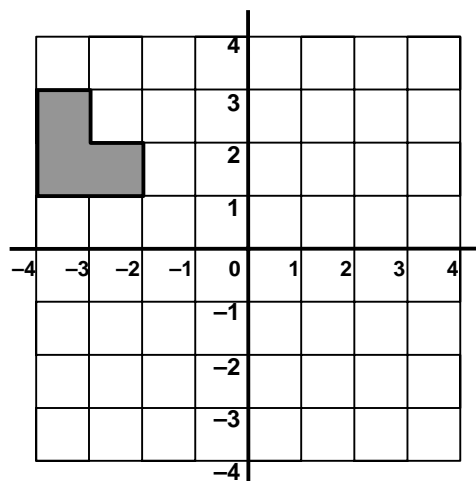
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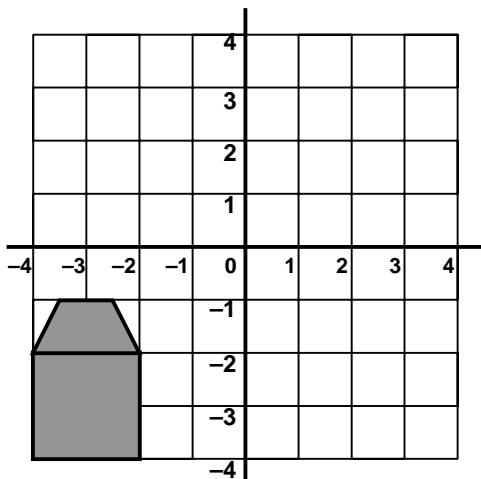
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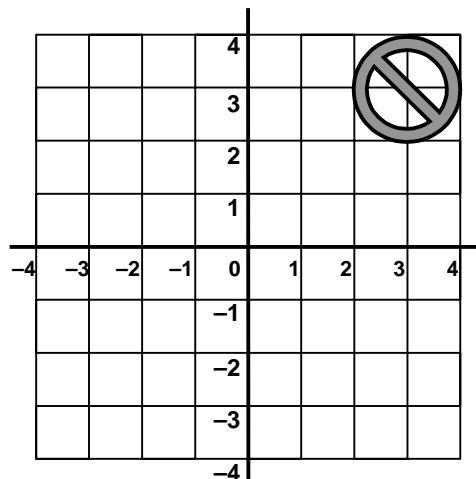
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Translate **5** units to the **right** and  
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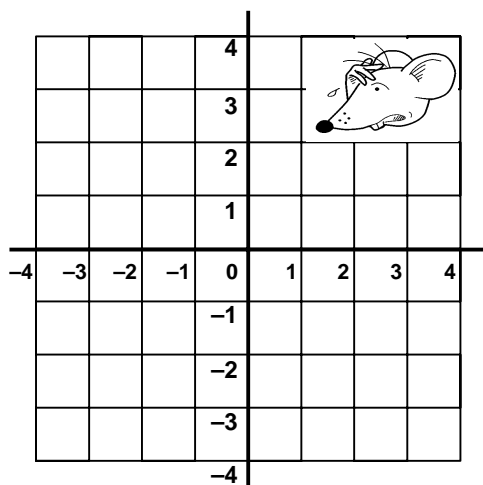


Translate **4** units to the **right** and  
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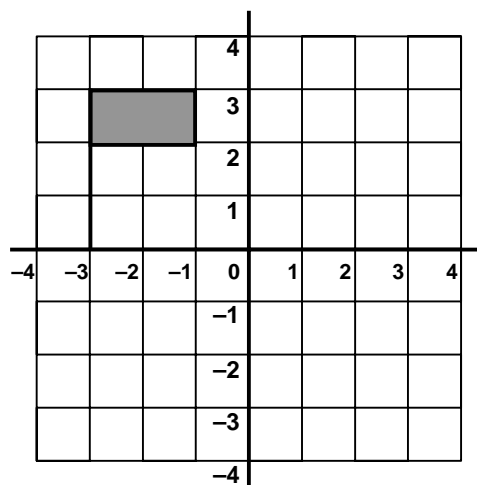


Translate **4** units to the **left** and  
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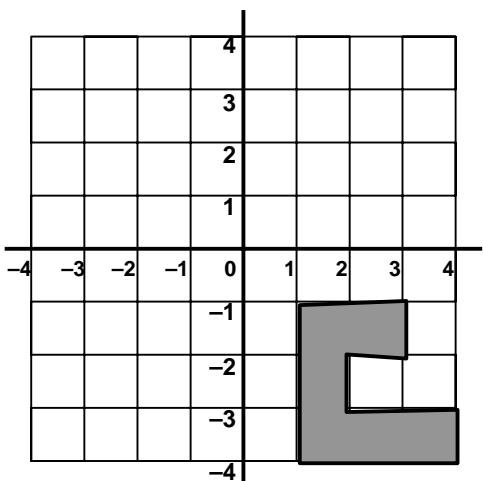
**1. Translate the shapes by the amount shown:**



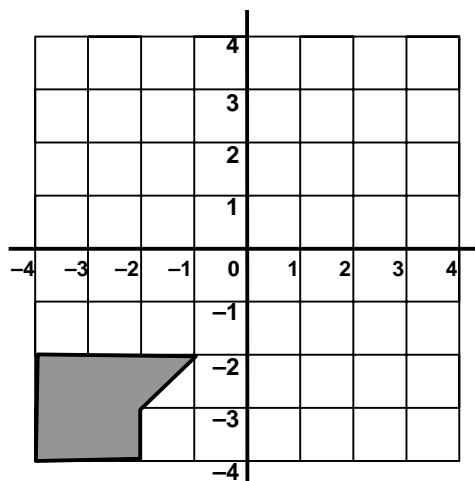
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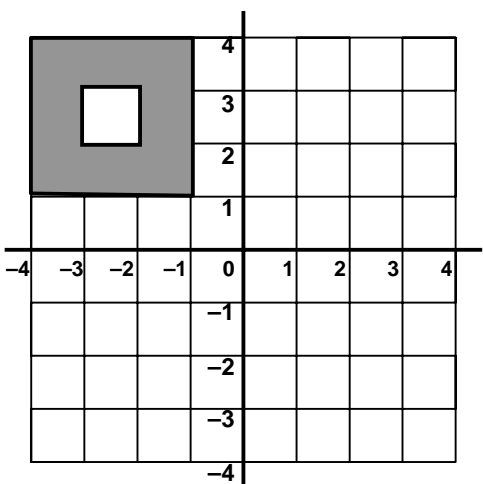
Translate **3** units to the **right** and  
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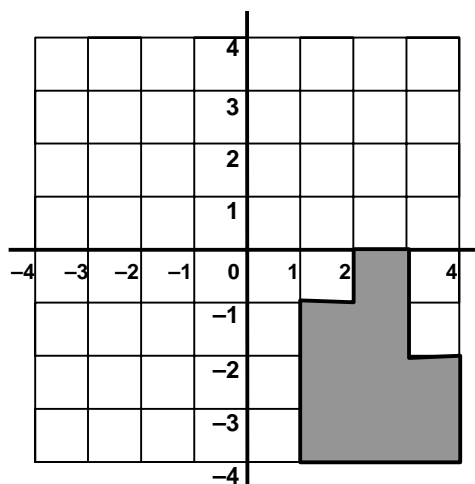
Translate **4** units to the **left** and  
**4** units **up**



Translate **3** units to the **right** and  
**4** units **up**



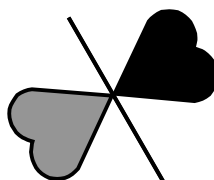
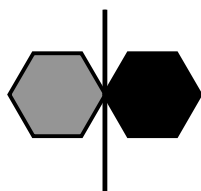
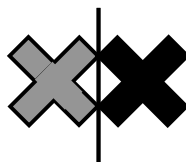
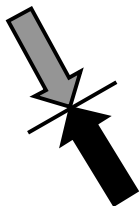
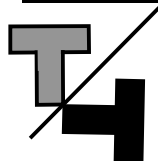
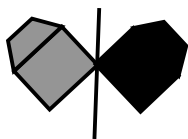
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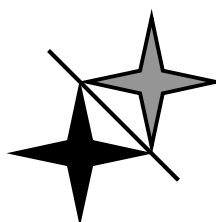
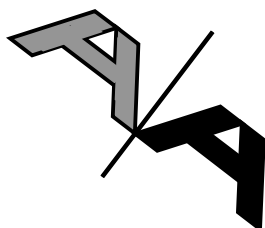
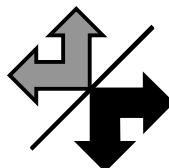
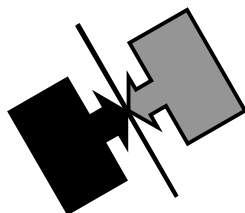
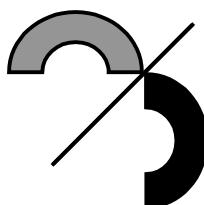
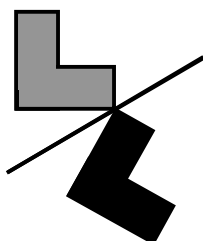
Translate **3** units to the **left** and  
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Answers

Page 3

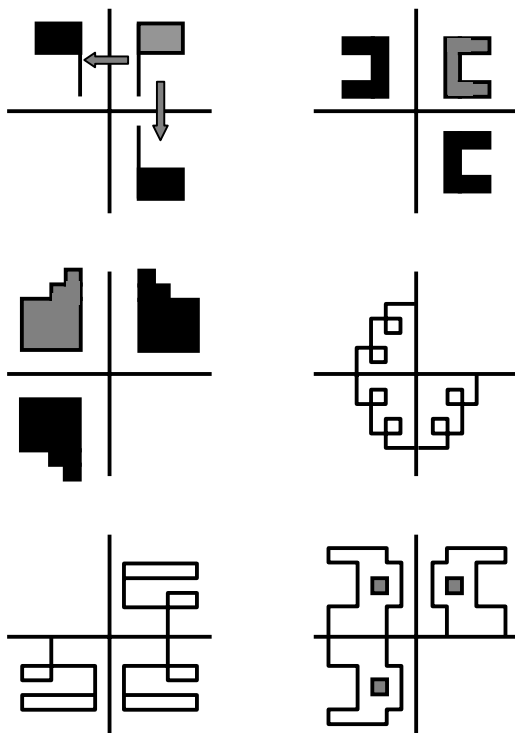


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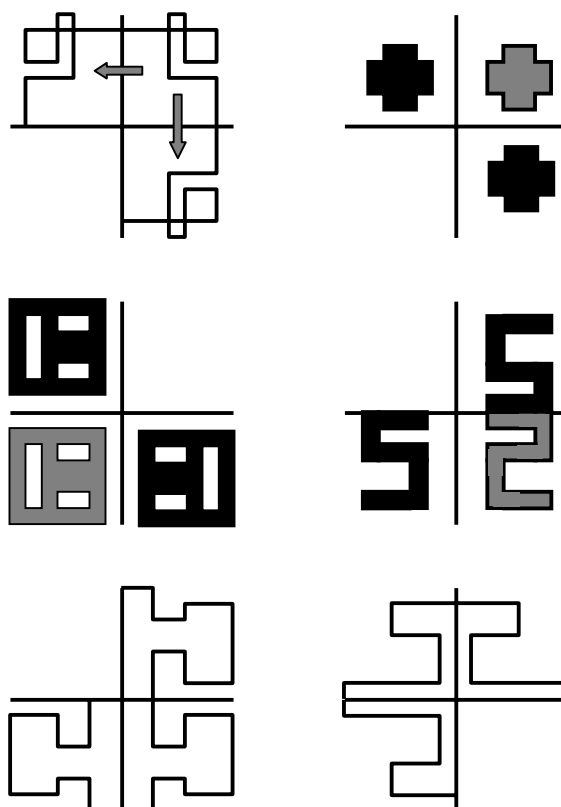


### Answers (Contd)

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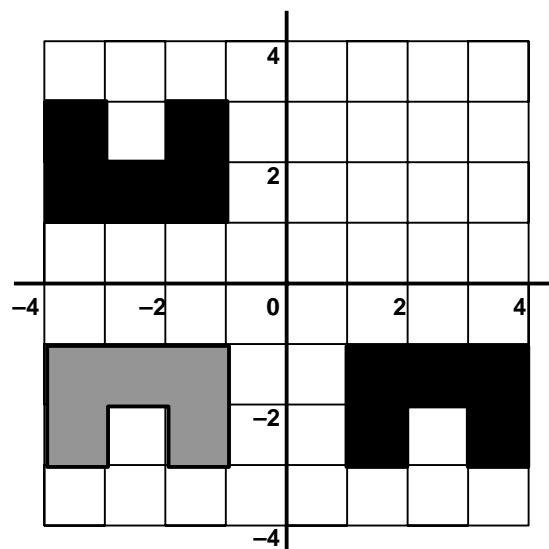
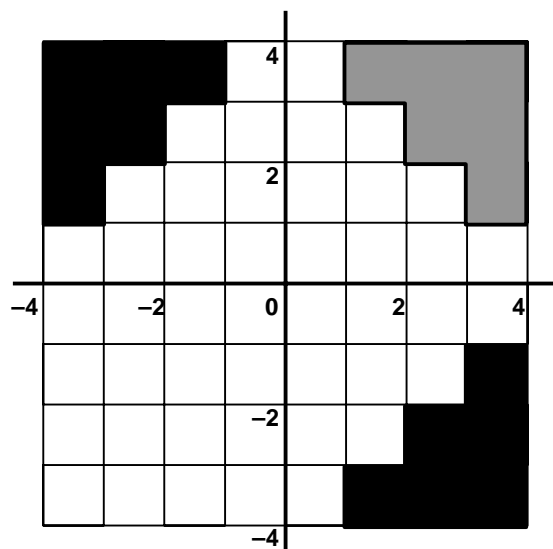
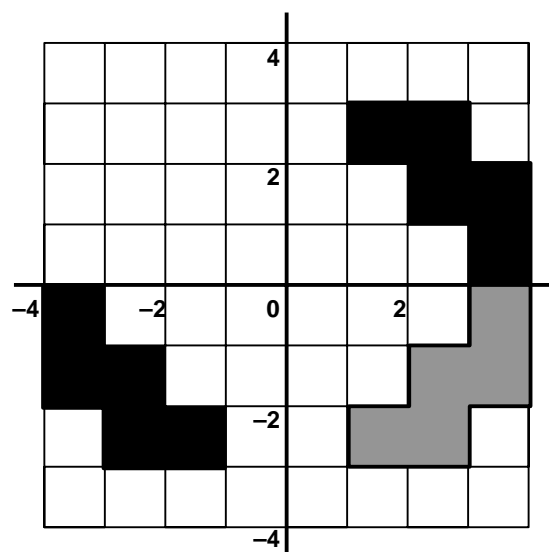
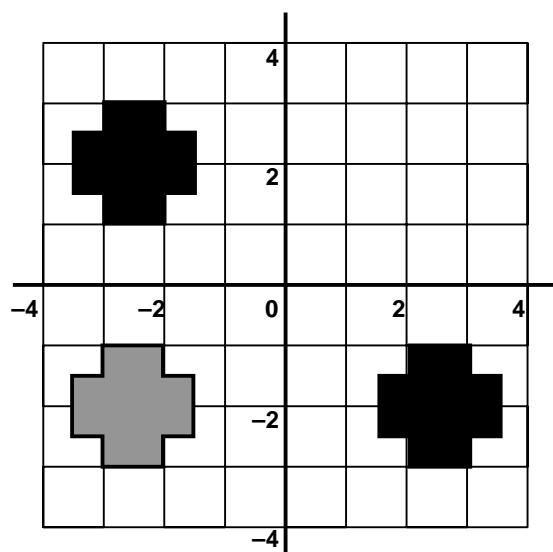
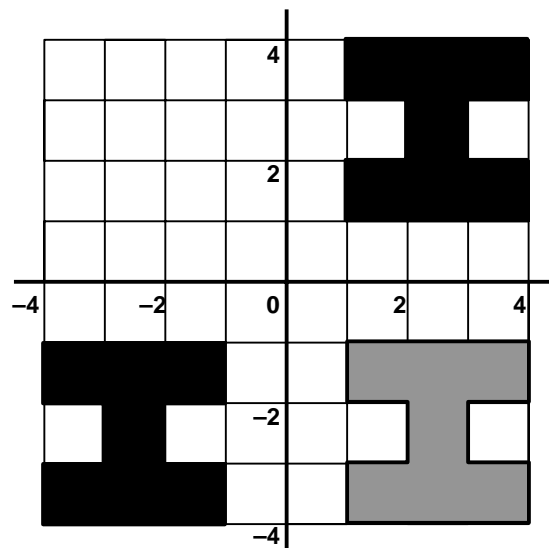
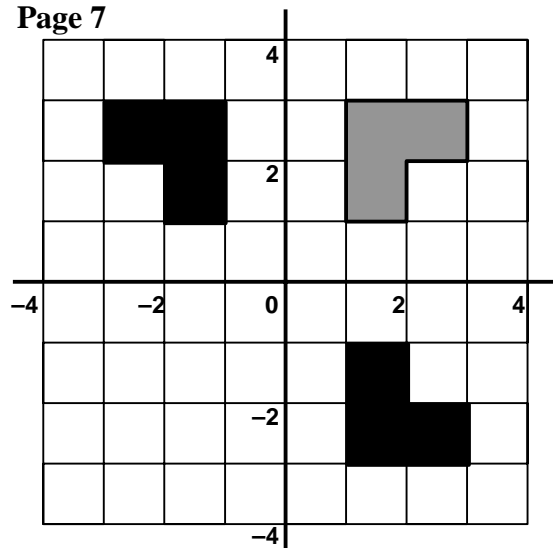


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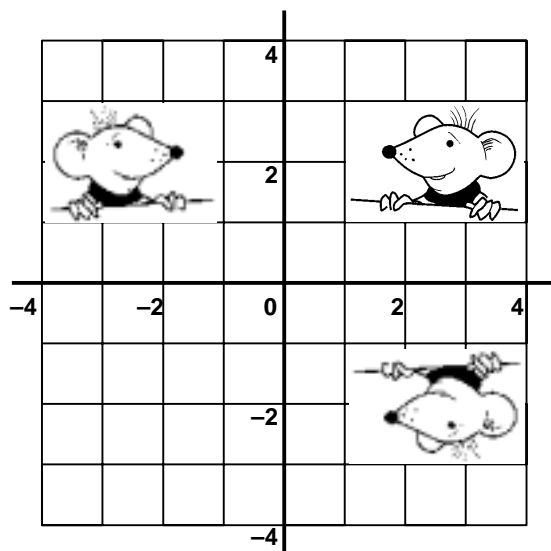
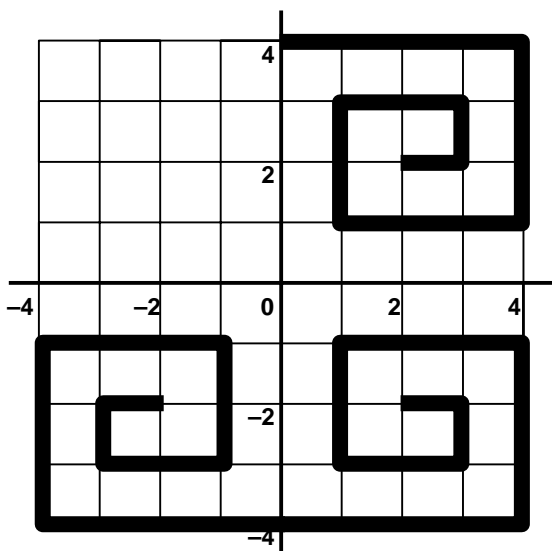
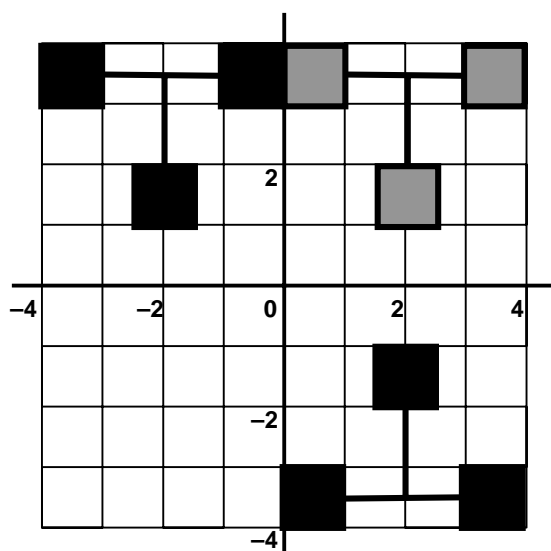
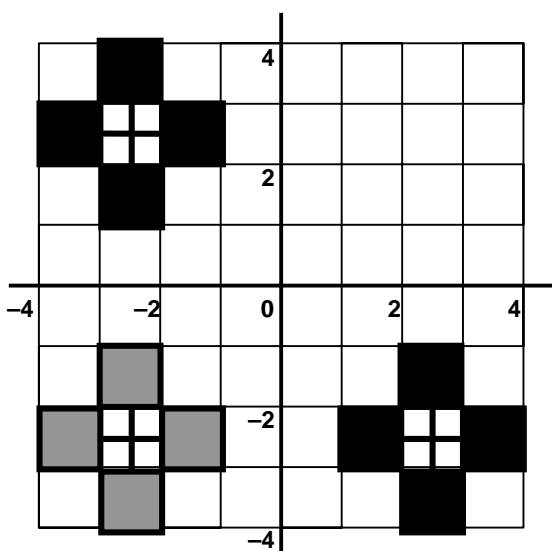
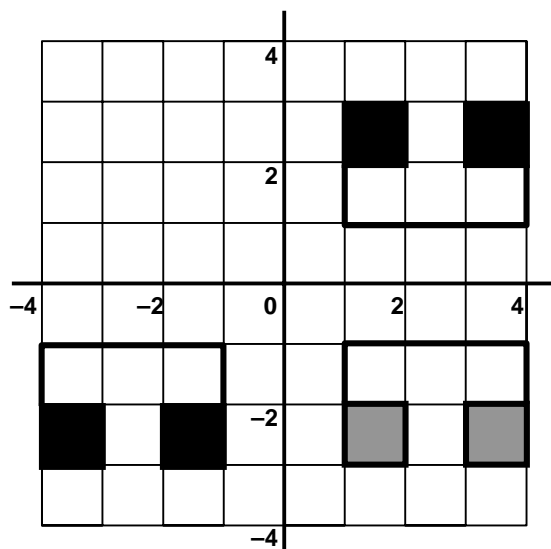
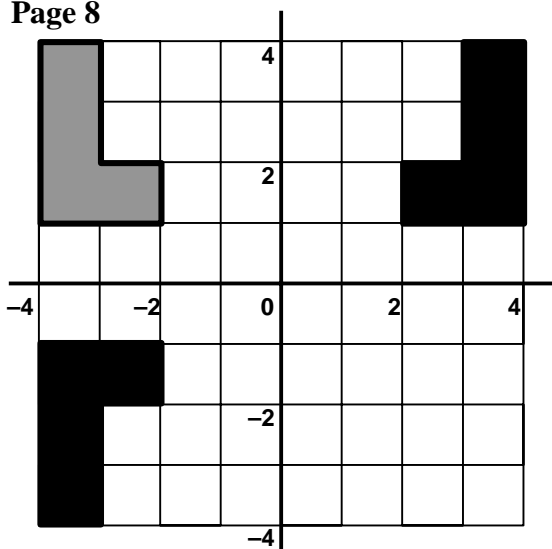
## Answers (Contd)

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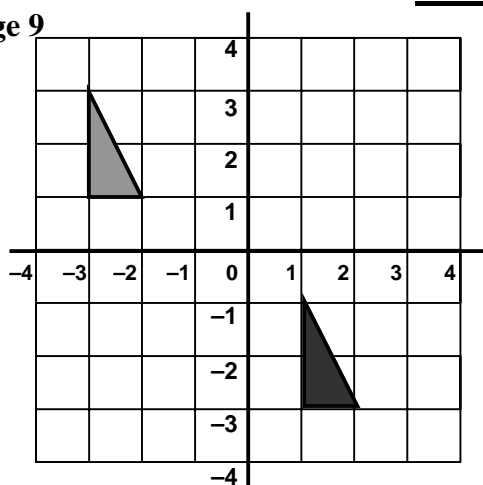
## Answers (Contd)

Page 8

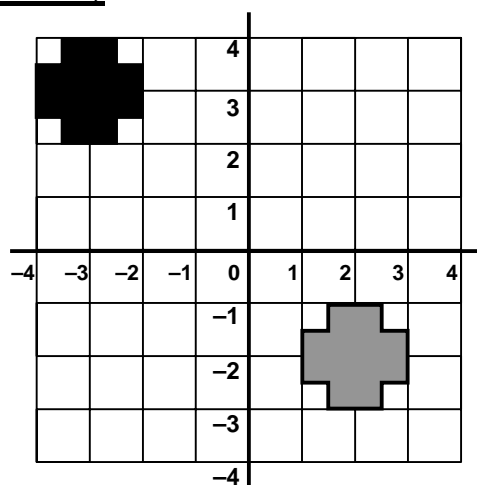


## Answers (Contd)

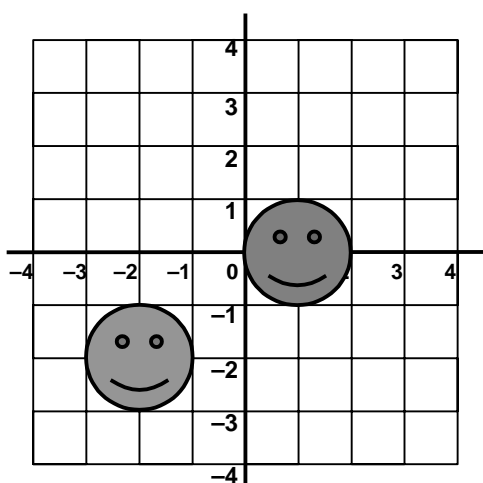
Page 9



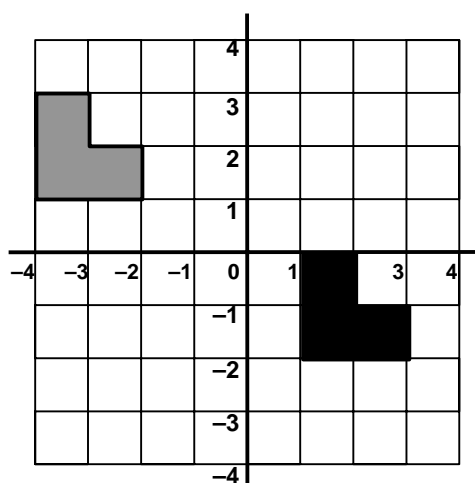
Translate 4 units to the **right** and 4 units **down**



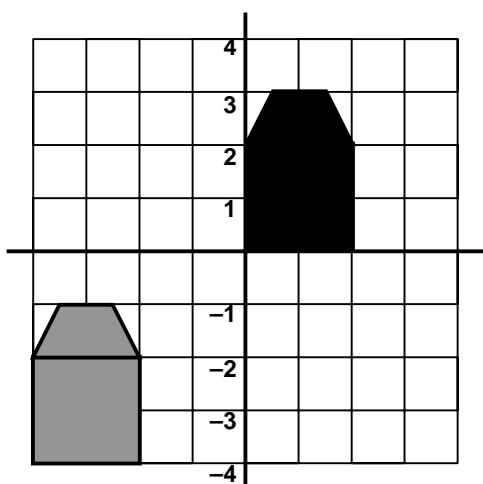
Translate 5 units to the **left** and 5 units **up**



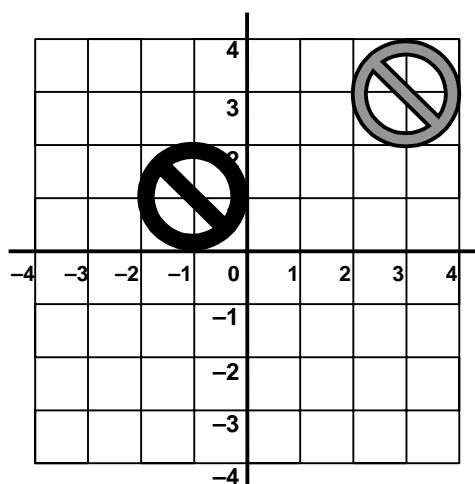
Translate 3 units to the **right** and 2 units **up**



Translate 5 units to the **right** and 3 units **down**



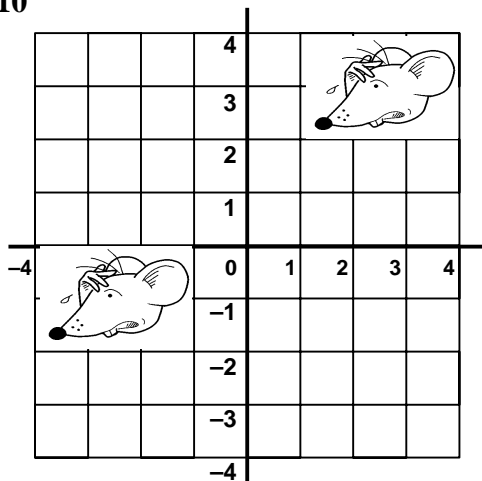
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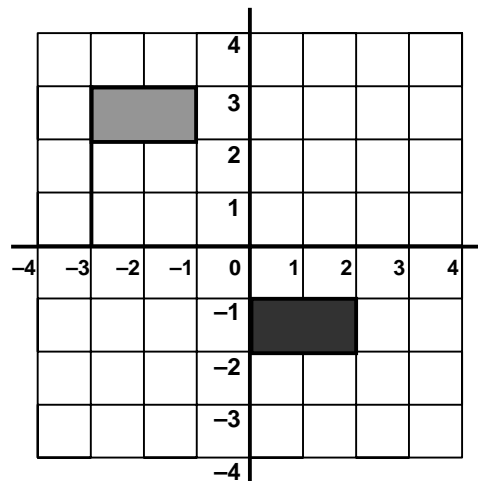
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## Answers (Contd)

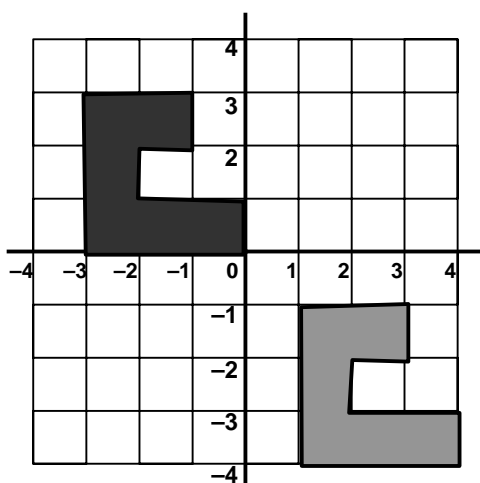
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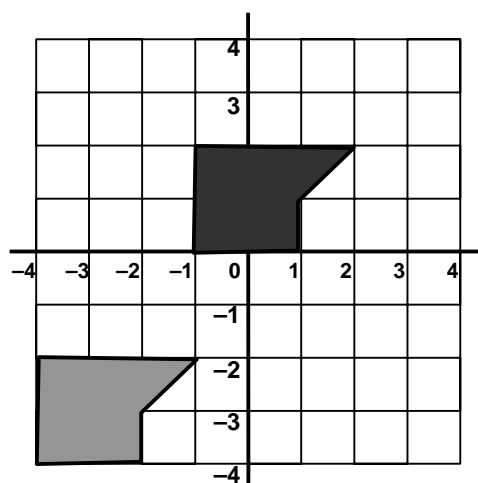
Translate **5** units to the **left** and  
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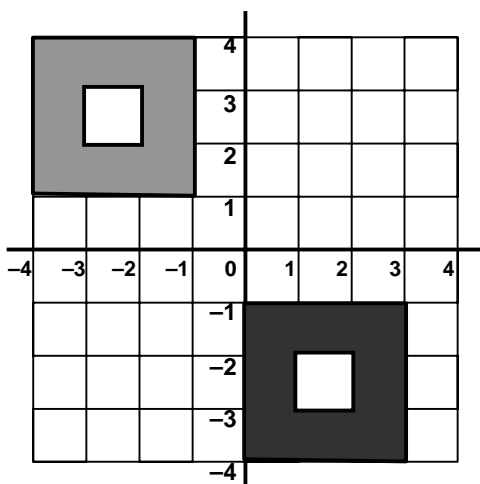
Translate **3** units to the **right** and  
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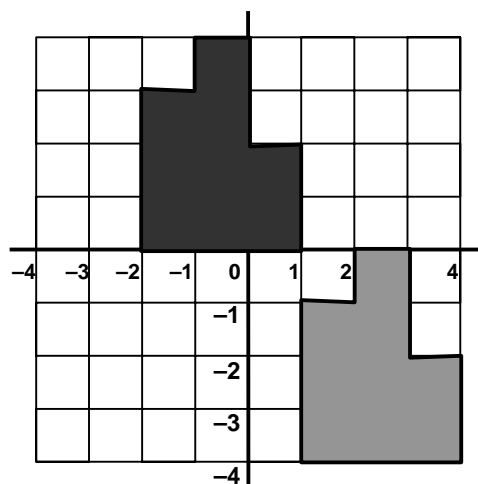
Translate **4** units to the **left** and  
**4** units **up**



Translate **3** units to the **right** and  
**4** units **up**



Translate **4** units to the **right** and  
**5** units **down**



Translate **3** units to the **left** and  
**4** units **up**