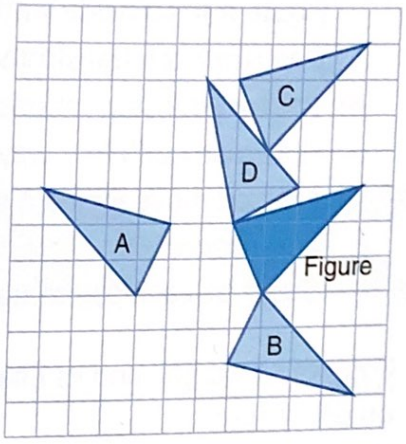
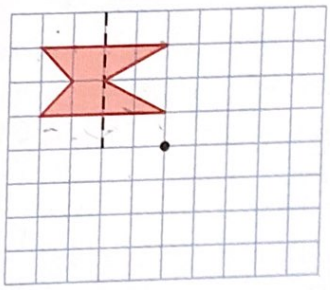
Practice

Use tracing paper when it helps.

1. Describe the transformation that moves the figure to each image.
Can you describe any movements in more than one way? Explain.
   a) Image A
   b) Image B
   c) Image C
   d) Image D



2. Copy this figure on 1-cm grid paper.
Draw the image after each transformation.
   a) a translation of 4 squares down and 1 square right
   b) a reflection in the broken line
   c) a $\frac{1}{4}$ turn counterclockwise about the dot



3. Use 1-cm grid paper.
   a) Draw a square.
      - Choose a translation.
      - Choose a mirror line.
      Reflect the square in the mirror line.
      - Choose a turn centre, a fraction of a turn, and the direction.
      Rotate the square about the turn centre.

      Draw and label the image of the square after each transformation.
      Compare the square to each image.
   b) Repeat part a.
      This time start with a rectangle.
      Compare the rectangle to each image.
   c) When you see a square and its image, can you always tell what the transformation was? Explain.
      Answer the same question for a rectangle and its image.

Numbers Every Day

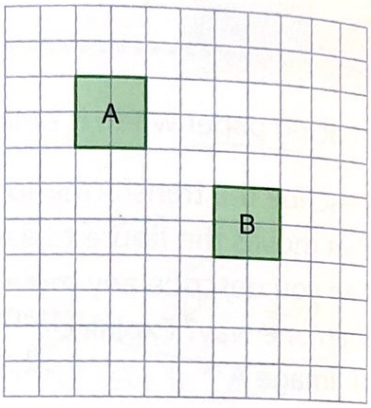
Number Strategies

Find the mean of the numbers in each set.

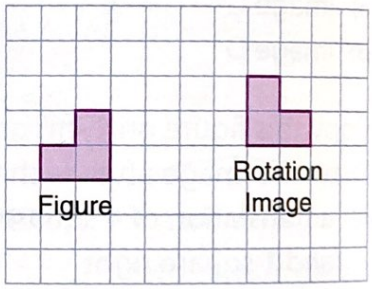
- 15, 25, 5, 10, 45
- 30, 10, 60, 20, 40, 20
- 3, 8, 9, 12, 6, 5, 6

4. a) Use a transformation.
How many different ways can you move Figure A to coincide with Figure B?
Describe each transformation.

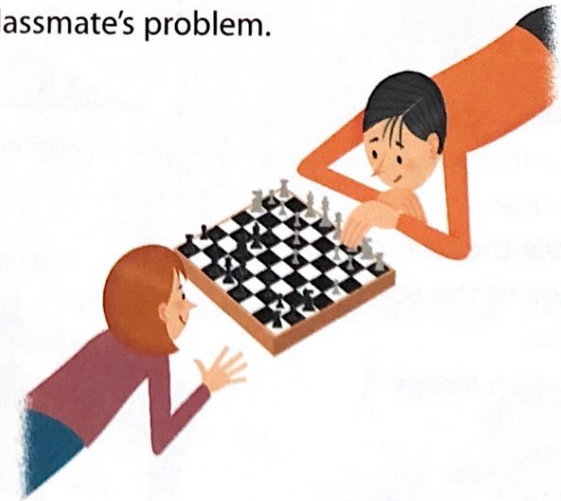
b) Use two transformations.
How many different ways can you move Figure A to coincide with Figure B?
Describe each pair of transformations.



5. Copy this hexagon and its final image on grid paper.
The hexagon was reflected.
Then its reflection image was rotated.
Where could the reflection image be?
Explain.
Show your work.



6. Use question 5 as a model.
Create your own problem that can be solved using transformations.
Trade problems with a classmate.
Solve your classmate's problem.



Reflect

Can the image after a translation be the same as the image after a reflection?
Use pictures and words to explain.

At Home

Look for an example of a transformation.
Which transformation moves the figure to its image?