4.1 Enlargements and Reductions

MathLinks 9, pages 130–138

Key Ideas Review

Choose from the following terms to complete #1.

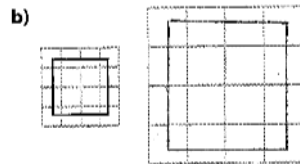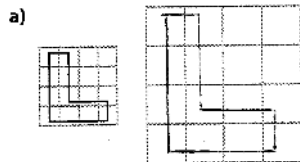| constant | enlargement | larger | reduction | scale factor | smaller |

1. a) A scale factor greater than 1 indicates a(n) __enlargement__, which results in an image that is the same shape but proportionally

   __larger__ than the original.

   b) A scale factor less than 1 indicates a(n) __reduction__, which results in an image that is the same shape but proportionally __smaller__ than the original.
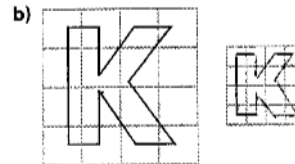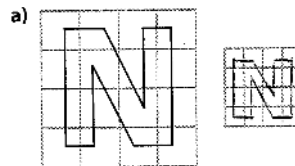
   c) The __scale factor__ is the __constant__ amount by which all dimensions of an object are enlarged or reduced in a scale drawing.

Check Your Understanding

2. Draw an enlargement of each figure using a scale factor of 2.

   a)
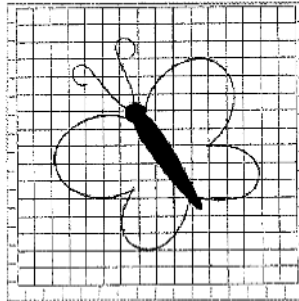
   b)

3. Draw a reduction of each letter using a scale factor of 0.5.

   a)

   b)

4. For each image in column A, state whether the image in column B has a scale factor
   - greater than 1
   - less than 1
   - equal to 1

	A	B
a) *equal to 1*		
b) *less than 1*		
c) *greater than 1*		

5. a) Draw an enlargement of the butterfly using a scale factor of 4.

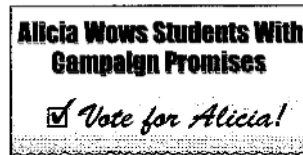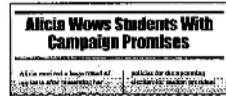   b) Explain how you know that your drawing is correct.

   multiplied each measurement by 4

6. Draw an image of the flag of Greece using a scale factor of $\frac{1}{4}$.

omitted

7. Alicia copied a headline from the school newspaper and included it on her election poster.

Alicia Wows Students With Campaign Promises

☑ *Vote for Alicia!*

   a) Is the headline on the poster an enlargement or a reduction of the headline in the newspaper?

   enlargement

   b) What is the scale factor? How do you know?

   approximately 1:2.3

   answers will vary

   1:2
   to
   1:2.5

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