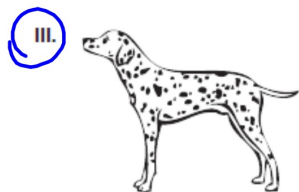


LAUNCH: Here is a picture of a dog.



Here are four other images of the dog.



Which look well-scaled?

4.3 What Is a Well-Scaled Drawing?

Objective: Students will decide whether two figures are well-scaled copies of each other

Minds in Action

episode 11

Tony and Sasha try to decide which images could be accurate reductions or enlargements of the dog picture.

Tony If one of these pictures is an accurate copy of the original dog picture, it's got to look exactly like the original, right?

Sasha Well, we're not necessarily looking for an exact copy of the original. We're just looking for a picture that keeps the same shape, but not necessarily the same size. The original picture may have been enlarged or shrunk down—like on a copy machine.

Tony The first copy is shorter than the original, but it's not smaller all around. It just looks like someone stepped on it. If we're looking for an accurate smaller copy of the original picture, the copy needs to be smaller all around.

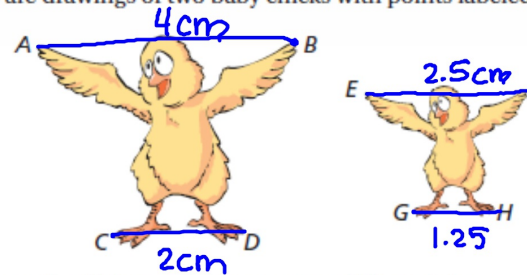
Sasha I know what you mean. The fourth copy is bigger than the original, but it's not bigger all around. It got bigger, but it's too long.

For Discussion

1. Decide which of the four images are accurate enlargements or reductions of the original dog picture.
2. What characteristics of the dog images helped you make your decisions?

Check Your Understanding

1. Here are drawings of two baby chicks with points labeled *A* through *H*.



Here are the distances between some of the points.

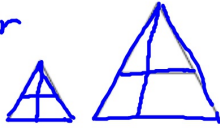
$$AB = 4 \text{ cm} \quad CD = 2 \text{ cm} \quad EF = 2.5 \text{ cm} \quad GH = 1.25 \text{ cm}$$

How can you use these measurements to help convince someone that the two chicks are well-scaled copies of each other? Are there other measurements that could be important to compare?

$$\frac{4}{2} = \frac{2.5}{1.25} \quad 5 = 5$$

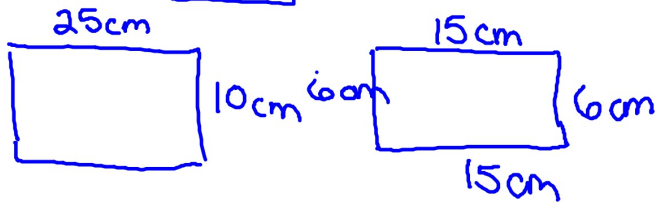
3. Name at least four different pairs of measurements you could take on these two figures to convince someone that the two figures are well-scaled copies of each other.

• horizontal bar



7. **Standardized Test Prep** A rectangle has dimensions 25 cm by 10 cm. It is scaled by the factor $\frac{12}{25}$. What is the perimeter of the scaled rectangle?

- A. 35 cm **B. 42 cm** C. 70 cm D. 90 cm



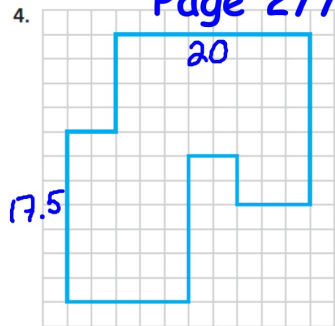
On Your Own

Homework:

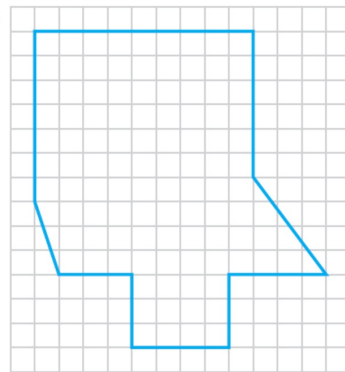
Page 277 (4-6)

For Exercises 4–6, use graph paper to scale the pictures by the given scale factor.

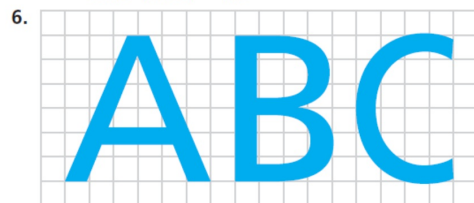
4. **Page 277 (4-6)**



scale factor = 2.5



scale factor = 0.5



scale factor = 2