Lil Bot, Big Bot and Mega Bot

Scale Models and Scale Factor

When a model is created of an object, and every measurement of the model is proportional to the object, it is said to be a **scale model**. The **scale factor** is the ratio of any length of the model to the corresponding length of the object.

Example scale factors:

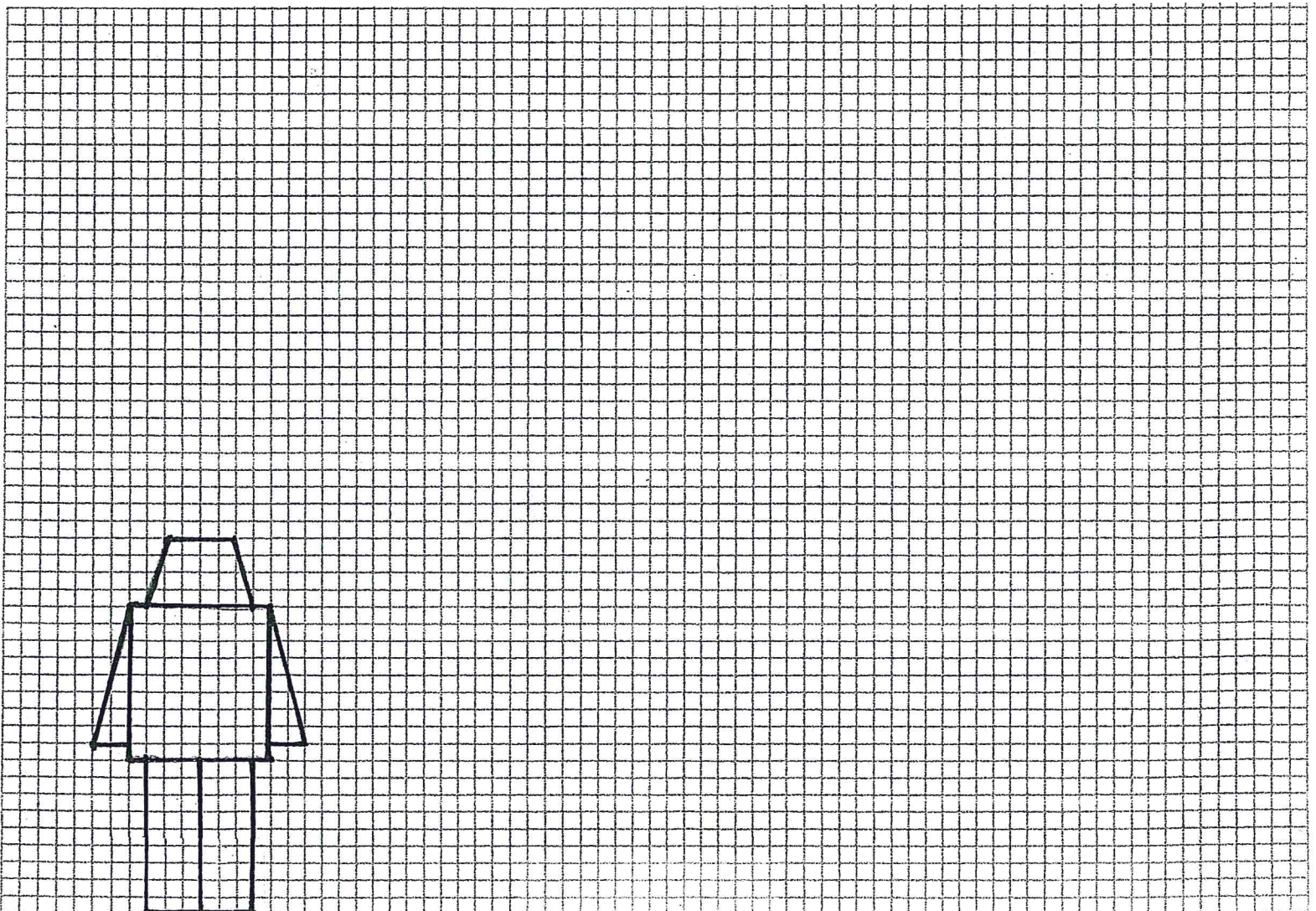|	
1 inch = 4 feet	1 inch of the model represents 4 feet of the object
1:30	1 unit of the model represents 30 units of the object

Lil Bot and Big Bot

Two robot toys, Lil Bot and Big Bot are proportional in size with a scale factor of 1:2.

1. Using the scale drawing of Lil Bot below, draw Big Bot to scale.

2. Complete the table below comparing the dimensions of Lil Bot to Big Bot.

	Lil Bot (L)	Big Bot (B)
Head Height (units)		
Leg Length (units)		
Arm Length (units)		
Total Height (units)		

3. Write in words the relationship between the size of Big Bot and the size of Lil Bot.

4. Write an equation that relates any dimensions of Big Bot (B) to that of Lil Bot (L).

5. What is another word related to proportional relationships that is equivalent to scale factor?

Lil Bot and Mega Bot

Lil Bot is proportional to Mega Bot with a scale factor of 1:7.

6. Calculate the dimensions of Mega Bot from the dimensions of Lil Bot and the scale factor.

	Lil Bot (L)	Mega Bot (M)
Head Height (units)		
Leg Length (units)		
Arm Length (units)		
Total Height (units)		

7. Write in words the relationship between the size of Mega Bot and the size of Lil Bot.

8. Write an equation that relates any dimensions of Mega Bot (B) to that of Lil Bot (L).