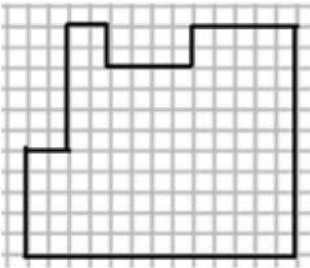


Name _____

Date _____

An Exercise in Creating a Scale Drawing

1. Your sister has just moved into a loft style apartment in Manhattan and has asked you to be her designer. Indicate the placement of the following objects on the floorplan using the appropriate scale: queen-size bed (60 in. by 80 in.), sofa (36 in. by 64 in.), and dining table (48 in. by 48 in.). In the following scale drawing, 1 cm represents 2 ft. Each square on the grid is 1 cm^2 .



2. Choose one object and explain the procedure to find the scale lengths.

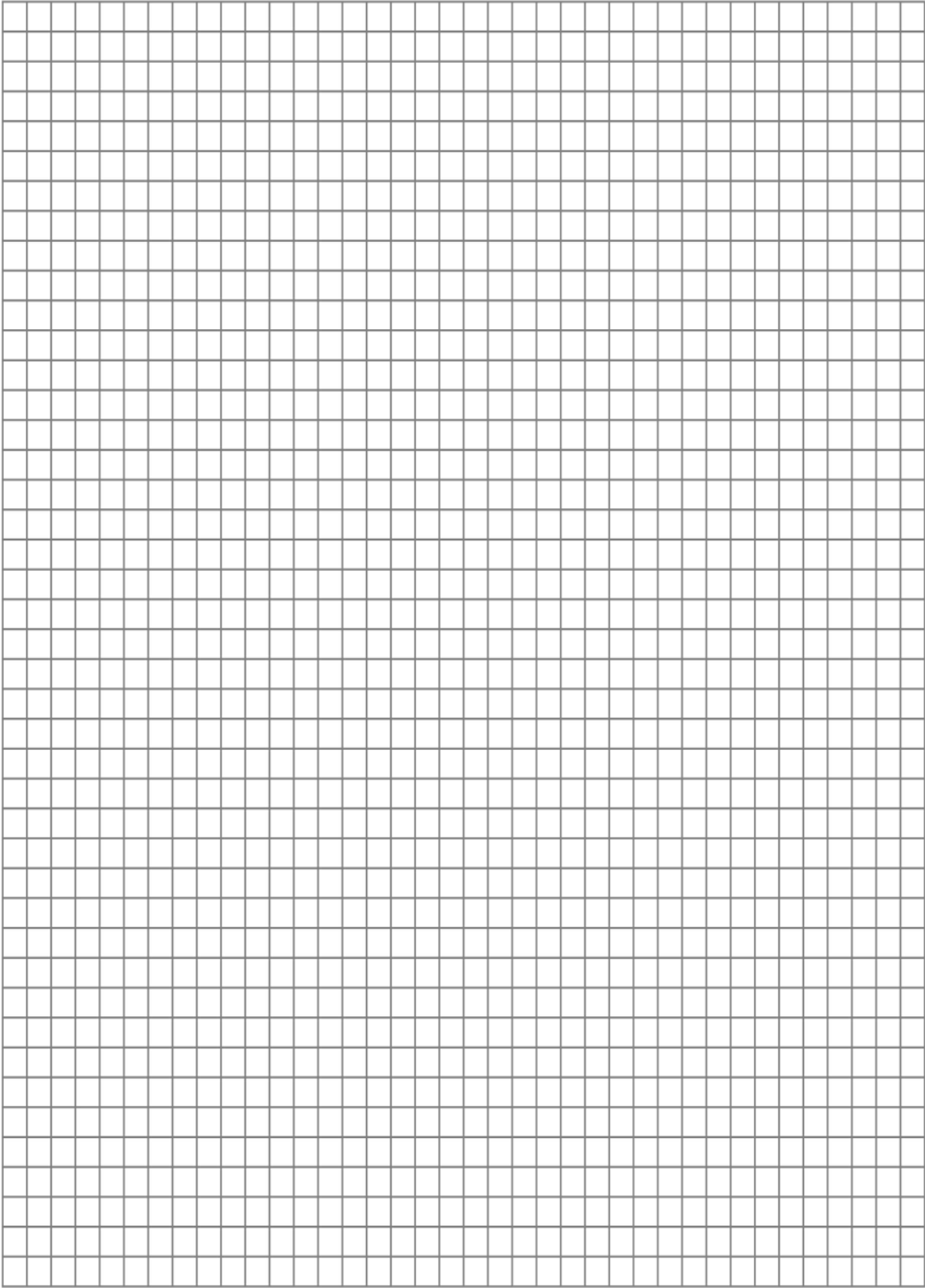
Interior Designer

You won a spot on a famous interior designing TV show! The designers will work with you and your existing furniture to redesign a room of your choice. Your job is to create a top-view scale drawing of your room and the furniture within it.

- With the scale factor being $\frac{1}{24}$, create a scale drawing of your room or other favorite room in your home on a sheet of 8.5×11 inch graph paper.
- Include the perimeter of the room, windows, doorways, and three or more furniture pieces (such as tables, desks, dressers, chairs, bed, sofa, ottoman, etc.).
- Use the table to record lengths and include calculations of areas.
- Make your furniture “moveable” by duplicating your scale drawing and cutting out the furniture.
- Create a “before” and “after” to help you decide how to rearrange your furniture. Take a photo of your “before.”
- What changed in your furniture plans?
- Why do you like the “after” better than the “before”?

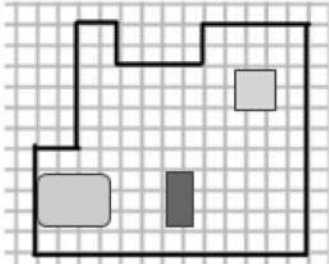
	Entire Room	Windows	Doors	Desk/ Tables	Seating	Storage	Bed		
Actual Length:									
Actual Width:									
Scale Drawing Length:									
Scale Drawing Width:									

	Entire Room Length	Desk/Tables	Seating	Storage	Bed		
Actual Area:							
Scale Drawing Area:							



Exit Ticket Sample Solutions

1. Your sister has just moved into a loft style apartment in Manhattan and has asked you to be her designer. Indicate the placement of the following objects on the floorplan using the appropriate scale: queen-size bed (60 in. by 80 in.), sofa (36 in. by 64 in.), and dining table (48 in. by 48 in.). In the following scale drawing, 1 cm represents 2 ft. Each square on the grid is 1 cm².



$$\text{Queen Bed: } 60 \div 12 = 5, 80 \div 2 = 40 \text{ cm}$$

$$80 \div 12 = 6\frac{2}{3}, 6\frac{2}{3} \div 2 = 3\frac{1}{3} \text{ cm}$$

$$\text{Sofa: } 36 \div 12 = 3, 64 \div 2 = 32 \text{ cm}$$

$$64 \div 12 = 5\frac{1}{3}, 5\frac{1}{3} \div 2 = 2\frac{2}{3} \text{ cm}$$

$$\text{Dining Table: } 48 \div 12 = 4, 48 \div 2 = 24 \text{ cm}$$

2. Choose one object and explain the procedure to find the scale lengths.

Take the actual measurements in inches and divide by 12 inches to express the value in feet. Then divide the actual length in feet by 2 since 2 feet represents 1 centimeter. The resulting quotient is the scale length.

Problem Set Sample Solutions

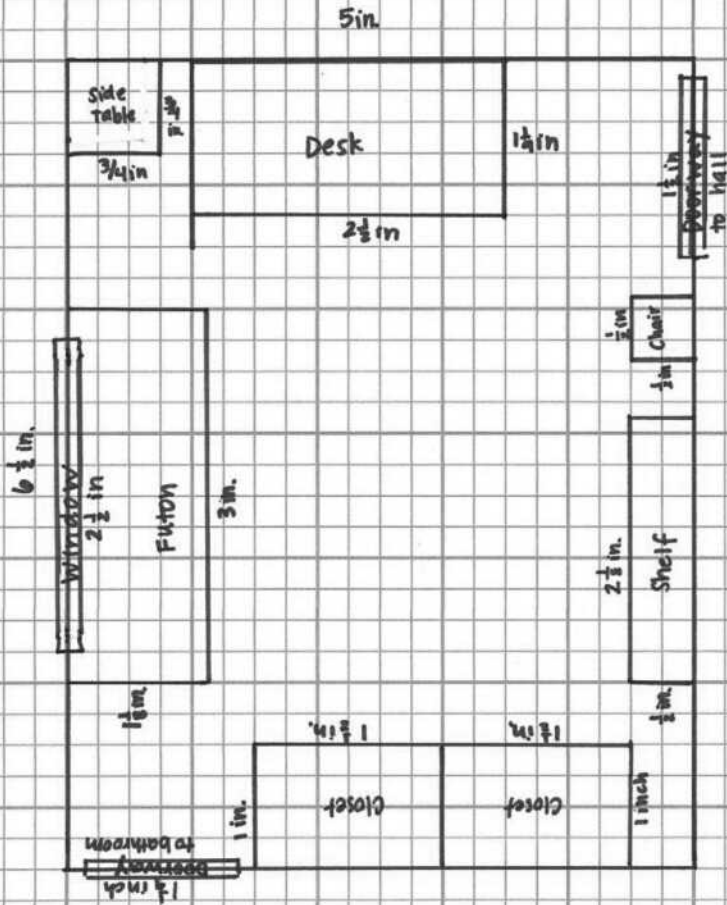
Interior Designer:

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- What changed in your furniture plans?
- Why do you like the “after” better than the “before”?

Answers will vary.

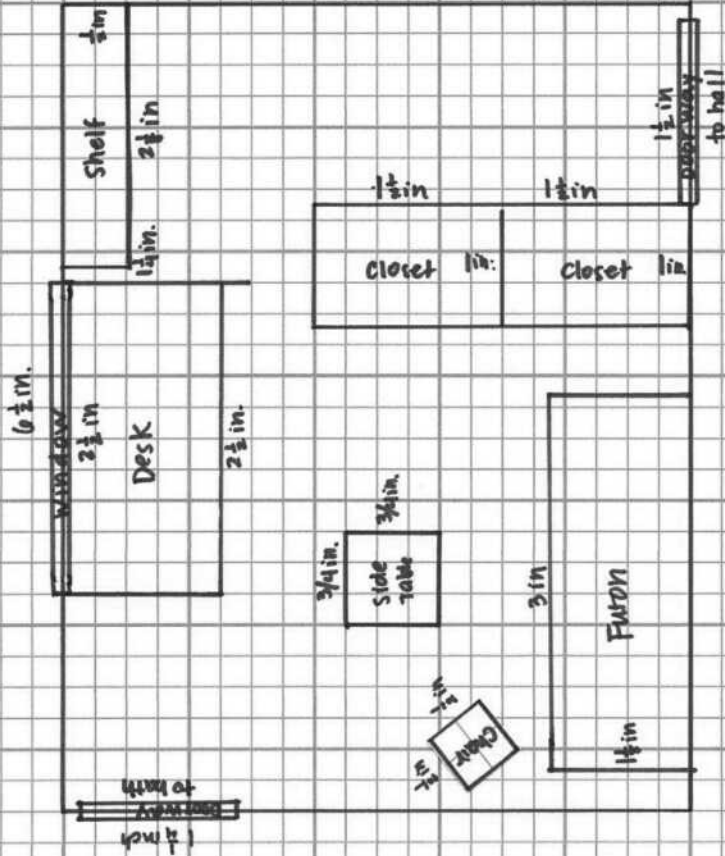
Before:



www.PrintablePaper.net

After:

5 m.



www.PrintablePaper.net

	Entire Room	Windows	Doors	Desk/Tables	Seating	Storage	Bed	Shelf	Side Table
Actual Length:	10 ft.	5 ft.	3 ft.	5 ft.	1 ft.	3 ft.	6 ft.	$5\frac{1}{4}$ ft.	$1\frac{1}{2}$ ft.
Actual Width:	13 ft.	/	/	$2\frac{5}{12}$ ft.	1 ft.	2 ft.	$2\frac{1}{4}$ ft.	1 ft.	$1\frac{1}{2}$ ft.
Scale Drawing Length:	5 in.	$2\frac{1}{2}$ in.	$1\frac{1}{2}$ in.	$2\frac{1}{2}$ in.	$1\frac{1}{2}$ in.	$1\frac{1}{2}$ in.	3 in.	$2\frac{5}{8}$ in.	$\frac{3}{4}$ in.
Scale Drawing Width:	$6\frac{1}{2}$ in.	/	/	$\sim 1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.	1 in.	$1\frac{1}{8}$ in.	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.

	Entire Room Length	Desk/Tables	Seating	Storage	Bed	Shelf	Side Table
Actual Area:	$10 \times 13 = ft^2$	$5 \times 2\frac{5}{12} =$ $5 \times \frac{29}{12} =$ $\frac{145}{12}$ $= 12\frac{1}{12} ft^2$	$1 \times 1 = 1 ft^2$	$3 \times 2 = 6 ft^2$	$6 \times 2\frac{1}{4} =$ $6 \times \frac{9}{4} =$ $\frac{27}{2} = 13\frac{1}{2} ft^2$	$5\frac{1}{4} \times 1$ $= 5\frac{1}{4} ft^2$	$1\frac{1}{2} \times 1\frac{1}{2} =$ $\frac{3}{2} \times \frac{3}{2} = \frac{9}{4}$ $= 2\frac{1}{4} ft^2$
Scale Drawing Area:	$5 \times 6\frac{1}{2} =$ $5 \times \frac{13}{2} =$ $\frac{65}{2} = 32\frac{1}{2} in^2$	$2\frac{1}{2} \times 1\frac{1}{4} =$ $\frac{5}{2} \times \frac{5}{4} = \frac{25}{8}$ $= 3\frac{1}{8} in^2$	$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4} in^2$	$1\frac{1}{2} \times 1 =$ $1\frac{1}{2} in^2$	$3 \times 1\frac{1}{8} = 3 \times$ $\frac{9}{8} = \frac{27}{8} =$ $3\frac{3}{8} in^2$	$2\frac{5}{8} \times \frac{1}{2} =$ $\frac{21}{8} \times \frac{1}{2} =$ $1\frac{5}{16} in^2$	$\frac{3}{4} \times \frac{3}{4} =$ $\frac{9}{16} in^2$