

Grade 7 - Scale Drawings - Answer Key

Common Core 7.G.A.1 · maths-pdf.fr/en/

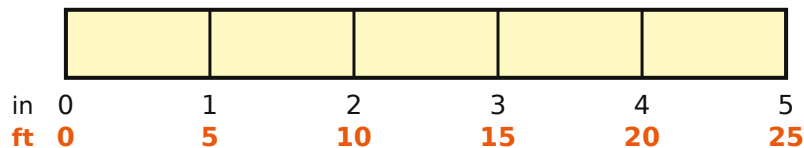
Use this answer key to check your work on the scale drawings worksheet. Every solution shows the steps, and the final answer appears in bold. If your answer is different, compare each step and look for the first place where the work changes.

Grade 7 · Common Core State Standards: 7.G.A.1

Exercise 1 - Actual length

$$3 \times 5 = 15$$

15 feet



3 inches = 15 feet.

Exercise 2 - Map distance

$$4.5 \times 20 = 90$$

90 miles

Map (in)	1	2	4	4.5
Miles	20	40	80	90

Map ratio table.

Exercise 3 - Length on the drawing

$$36 \div 6 = 6$$

6 inches

Exercise 4 - Scale factor

10 ft = 120 in, so the scale is 2:120.

$$2 \div 120 = 1 \div 60$$

1 : 60

Drawing	Actual	Same units
2 in	10 ft	2 in : 120 in
1 in	5 ft	1 in : 60 in

Scale factor 1 : 60.

Exercise 5 - Room dimensions

Length: $3 \times 4 = 12$ ft. Width: $2.5 \times 4 = 10$ ft.

Area: $12 \times 10 = 120$ square feet.

12 ft by 10 ft; 120 square feet

Exercise 6 - Area from a drawing

Each square inch stands for $5 \times 5 = 25$ square feet.

$$6 \times 25 = 150$$

150 square feet

Drawing	Actual
6 sq in	150 sq ft
1 sq in	25 sq ft

Area ratio.

Exercise 7 - Fraction scale

Each $\frac{1}{4}$ in is 1 ft, so each inch is 4 ft.

$$3\frac{3}{4} \times 4 = \frac{15}{4} \times 4 = 15$$

15 feet

Exercise 8 - Find the scale

$$20 \div 2.5 = 8$$

1 in = 8 ft

Exercise 9 - Enlargement

$$8 \times \frac{3}{16} = \frac{24}{16} = \frac{3}{2}$$

$1\frac{1}{2}$ inches

Exercise 10 - Compare areas

Drawing: $24 \div 6 = 4$ in by $18 \div 6 = 3$ in; area 12 square inches.

Actual area: $24 \times 18 = 432$ square feet.

$$432 \div 12 = 36$$

4 in by 3 in; 12 sq in; 36 times as large

Exercise 11 - Two-leg trip

Total on the map: $1.5 + 2.25 = 3.75$ in.

$$3.75 \times 40 = 150$$

150 miles

Exercise 12 - New scale

Actual length: $4 \times 10 = 40$ ft.

$$40 \div 5 = 8$$

8 inches

Exercise 13 - Triangle area

Base: $6 \times 3 = 18$ ft. Height: $4 \times 3 = 12$ ft.

$$A = \frac{1}{2}(18)(12) = 108$$

108 square feet

Exercise 14 - New carpet

Actual size: $5 \times 3 = 15$ ft by $3.5 \times 3 = 10.5$ ft.

Area: $15 \times 10.5 = 157.5$ square feet.

Cost: $157.5 \times 4.50 = 708.75$

\$708.75

Exercise 15 - Drive time

Distance: $2.75 \times 40 = 110$ miles.

$$110 \div 55 = 2$$

2 hours

Exercise 16 - Model airplane

$40 \text{ ft} = 40 \times 12 = 480 \text{ in.}$

$$480 \div 48 = 10$$

10 inches

Unit	Length
Model	10 in
Real plane	480 in = 40 ft

The scale 1 : 48.

Exercise 17 - Window on a blueprint

1 in = 2 ft, so $1.5 \times 2 = 3$

3 feet

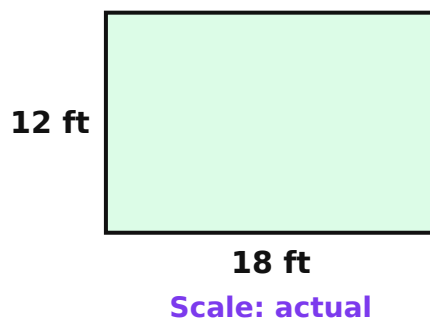
Exercise 18 - Garden fence

Actual size: 18 ft by 12 ft.

Area: $18 \times 12 = 216$ square feet.

Perimeter: $2(18+12) = 60$ ft; cost $60 \times 2.25 = 135$

216 square feet; \$135



Actual garden.

Exercise 19 - Playground area

Each square inch stands for $15 \times 15 = 225$ square feet.

$12 \times 225 = 2700$

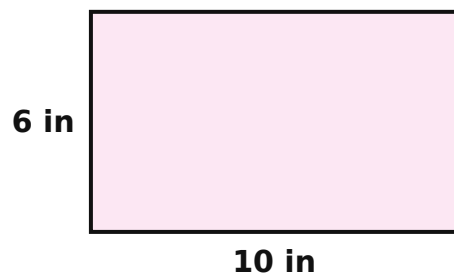
2,700 square feet, so 2,700 tiles

Exercise 20 - Mural plan

Width: $15 \div 1.5 = 10$ in. Height: $9 \div 1.5 = 6$ in.

Area: $10 \times 6 = 60$ square inches.

10 in by 6 in; 60 square inches



Scale: 1 in = 1.5 ft

The mural plan.