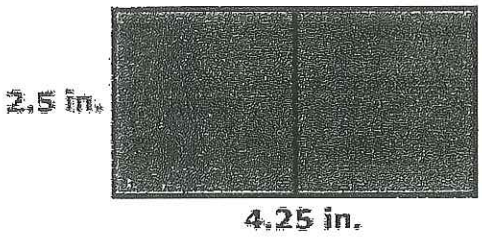
Scale Drawings

NAME Key

1. The scale drawing of the tennis court shown below is drawn using a scale of 1 inch = 12 feet.



How long would the net have to be, in feet, to stretch from one side of the court to the other, as shown by the centerline?

Scale in / Act. ft: $\frac{1}{12} = \frac{2.5}{x}$ (in Scale / ft Act.)

$x = 30$ ft

The net would have to be 30 ft wide.

2. Figure A is a scale image of Figure B, as shown.

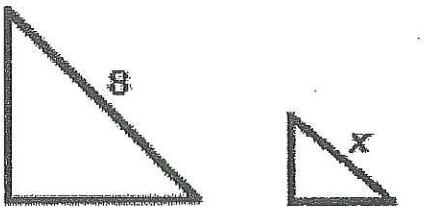


Figure A Figure B

The scale that maps Figure A onto Figure B is 1:0.25. Find the value of x.

Scale A / B: $\frac{1}{.25} = \frac{8}{x}$ (A Fig / B)

$x = 2$

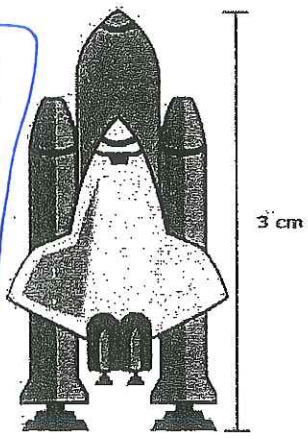
x is 2 units long.

3. The scale drawing of the space shuttle shown below is drawn using a scale of 1 cm to 25.5 ft. What is the height, in feet, of the space shuttle?

Scale cm / ft: $\frac{1}{25.5} = \frac{3}{x}$ (cm / ft Actual)

$x = 76.5$ ft

The space Shuttle is 76.5 ft high.



4. A car is 16 feet long. A toy company would like to make a scale model of it. They want to use the scale of 4 feet = 1 cm. How long would the toy car be?

Scale $\frac{\text{ft}}{\text{cm}}$ $\frac{4}{1} = \frac{16 \text{ ft Act}}{x \text{ cm}}$

$4x = 16$

$x = 4$ cm

The car would have to be 4 cm long.

5. A toy manufacturer is going to produce a toy that is a scale model of the giant robot in last summer's super hero movie, where 1 cm = 6 ft. If the robot in the movie was 36 feet tall, what will be the height of the toy?

Scale $\frac{\text{cm}}{\text{ft}}$ $\frac{1}{6} = \frac{x \text{ cm}}{36 \text{ ft}}$ Actual

$6x = 36$

$x = 6$ cm

The height of the toy robot has to be 6cm.

6. A new sci-fi movie was filmed using a man in rubber monster suit at 7 feet 2 inches tall. The suit was constructed to the scale 1 inch = 5 feet. How tall of a monster is the rubber suit designed to depict?

7 ft → 84 in + 2 in

Scale $\frac{\text{in}}{\text{ft}}$ $\frac{1}{5} = \frac{86 \text{ in}}{y \text{ ft}}$ Act

$y = 430$.

The monster will be 430 ft tall

7. A scale drawing of a rectangular park is 5 inches wide and 7 inches long. The actual park is 140 yards long. What is the area of the actual park, in square yards?

First Find actual width

Scale $\frac{w}{l}$ $\frac{5}{7} = \frac{x}{140}$ $\frac{w}{l}$ Actual

$7x = 700$

$x = 100$ yds

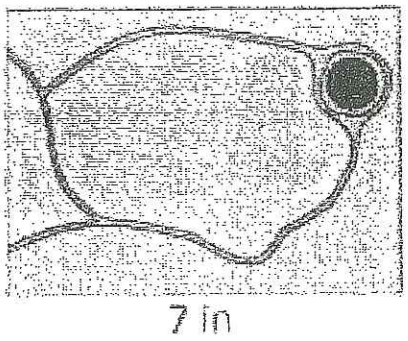
width is 100yds

2nd Find Area of rectangle

$A_R = l \cdot w$

$A_R = 140\text{yds} \cdot 100\text{yds}$

$A_R = 14{,}000\ \text{yds}^2$



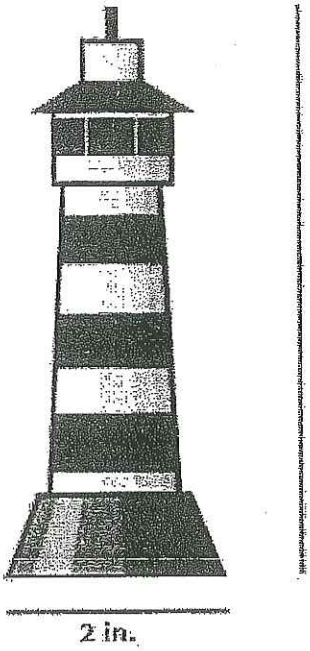
8. A figurine of a lighthouse is shown below:
If the actual lighthouse is 30 feet wide, how tall is the lighthouse?

Scale $\frac{w}{h}$ $\frac{2}{5.25} = \frac{30}{x}$ $\frac{w}{h}$ Act.

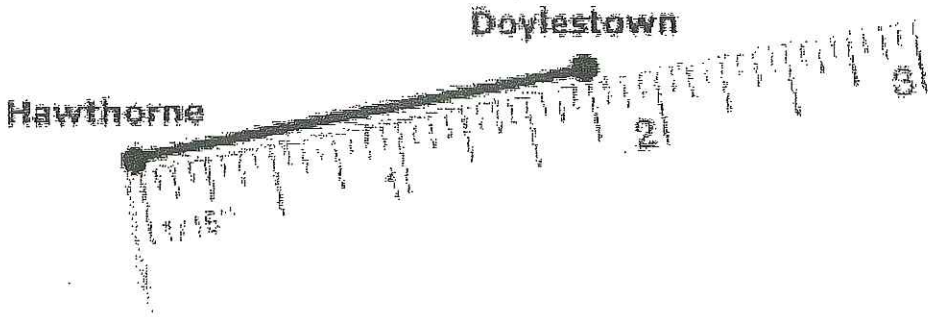
$2x = 157.5$

$x = 78.75$

The lighthouse is 78.75 ft tall.



9. The figure below represents the distance between Hawthorne and Doylestown.



If the scale in the drawing is ¼ inch = 3 miles, what is the distance, in miles, between Hawthorne and Doylestown?

Scale $\frac{\text{in}}{\text{mi}}$ $\frac{\frac{1}{4}}{3} = \frac{1\frac{3}{4}}{x}$ $\frac{\text{in}}{\text{mi}}$ Act.

$\frac{1}{4}x = 5.25$

$x = 21$ mi

The distance between Hawthorne and Doylestown is 21 mi.