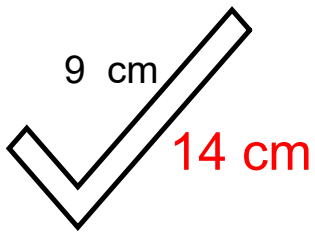
A. Find the scale factor in the following diagram.

B. Find the unknown side.



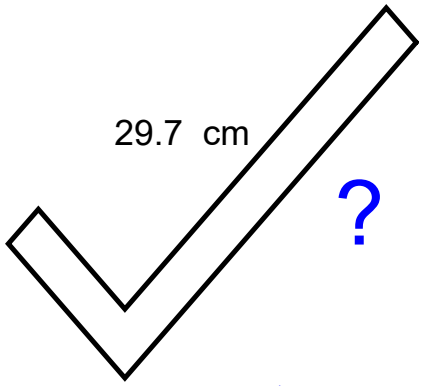
Original

Scale Factor

$S.F = \frac{\text{Enlargement}}{\text{original}}$

$S.F = \frac{29.7\text{ cm}}{9\text{ cm}}$

$S.F = 3.3$



Enlargement

unknown ?

$\text{unknown} = \text{original} \times S.F$

$= 14 \times 3.3$

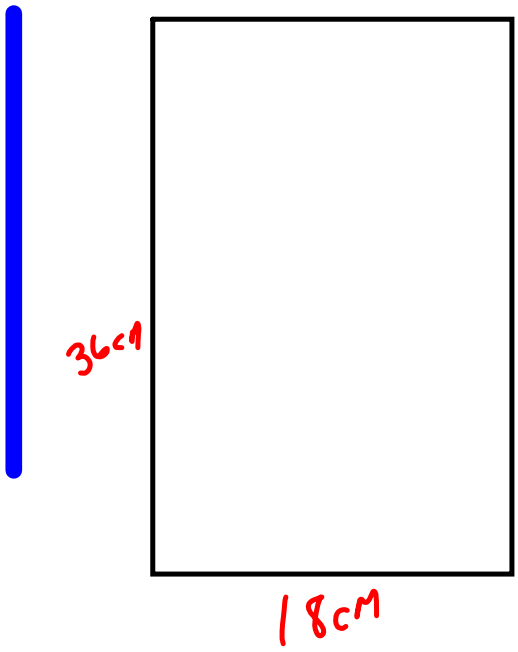
$= 46.2\text{ cm}$

Draw a enlargement with a scale factor 3

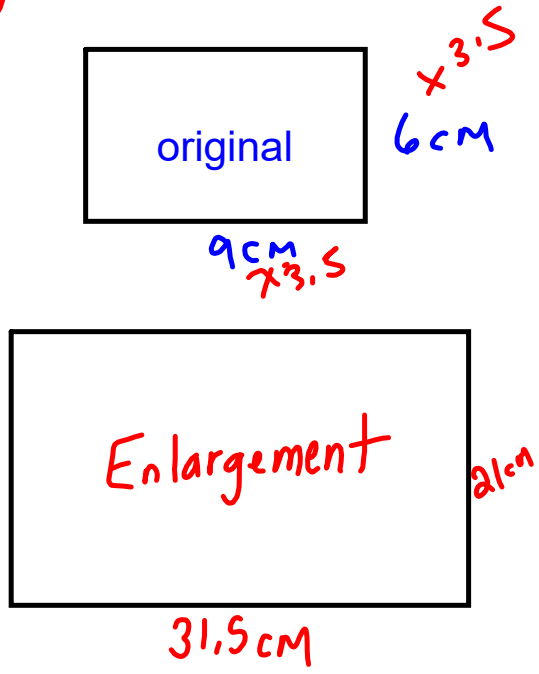
Actual

12 cm ×3

6 cm ×3



This photo [redacted] has dimensions 9 cm by 6 cm.
The photo is to be enlarged by a scale factor of $\frac{7}{2}$. (3.5)
Calculate the dimensions of the enlargement.



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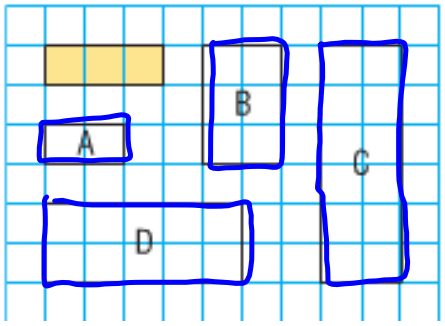
below, identify which of diagrams A, B, C, and D are scale diagrams of the shaded shape. For each scale diagram you identify:

i) State the scale factor.

ii) Explain how it is a scale diagram.

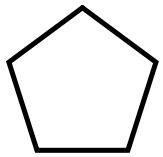
a)

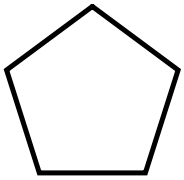


	Long Side	Short Side
✗ A / yellow	$\frac{2}{3} = 0.\dot{6}$	$\frac{1}{1} = 1$
✗ B / yellow	$\frac{3}{3} = 1$	$\frac{2}{1} = 2$
✓ C / yellow	$\frac{6}{3} = 2$	$\frac{2}{1} = 2$
✗ yellow / D	$\frac{3}{5} = 0.6$	$\frac{1}{2} = 0.5$

Section 7.1/7.2 Scale Diagrams and Enlargement/Reductions

	Scale factor	Reduction or enlargement
a)	2	Enlargement
b)	0.6 [$\frac{6}{10}$]	Reduction
c)	$\frac{5}{2}$ [2.5]	Enlargement
d)	$\frac{1}{4}$ [0.25]	Reduction





Original diagram

Scale diagram

Diameter of circle 2 cm
Height of heart is 0.4 cm

Diameter of circle 3 cm
height of heart 0.6 cm

	Diameter	Height
Scale Factor	$\frac{2cm}{3cm}$	$\frac{0.4}{0.6}$
	0.6	0.6

Summary... 7. 1/7.2

1. Scale factor = scaled measurement [enlargement/reduction]
original [actual]

2. To find the unknown in a scaled diagram...

New ? in scaled diagram = scale factor x original
? length, height, area, perimeter....

The length of a desk is 1.6 m. 1 m=100 cm

160 cm

A. In a scale drawing that has a scale factor of 2/5 what is the length in cm?

unknown length = original x scale factor
= 160 x 0.4
= 64 cm

B. In a picture the length is 36 cm. What is the scale factor for this picture?

S.F = scaled diagram / original

$\frac{36cm}{160cm}$

S.F = 0.225

C. If on a billboard the length is 5.2 m. What is the scale factor?

S.F = enlargement / original

$= \frac{5.2m}{1.6m}$

S.F = 3.25

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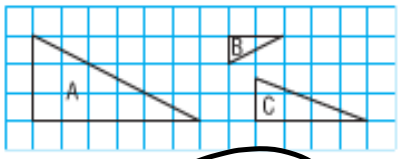
9. Which two polygons have pairs of corresponding lengths that are proportional? Identify the scale factor for the reduction.



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		Long	Short
✓	$\frac{A}{B}$	$\frac{6}{2} = 3$	$\frac{3}{1} = 3$
X	$\frac{C}{A}$	$\frac{4}{6}$ 0.6	$\frac{1.5}{3} = 0.5$
X	$\frac{B}{C}$	$\frac{2}{4} = 0.5$	$\frac{1}{1.5} = 0.66$

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Answers!