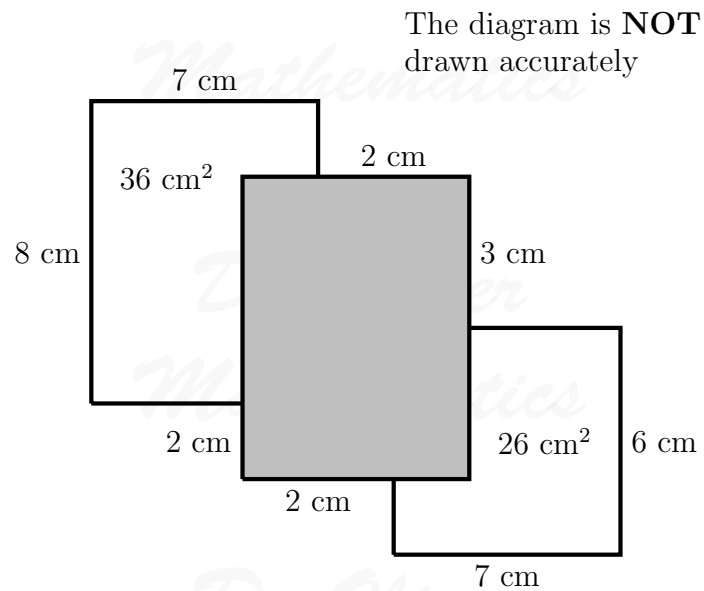


Dr Oliver Mathematics
Worked Examples
Area 12

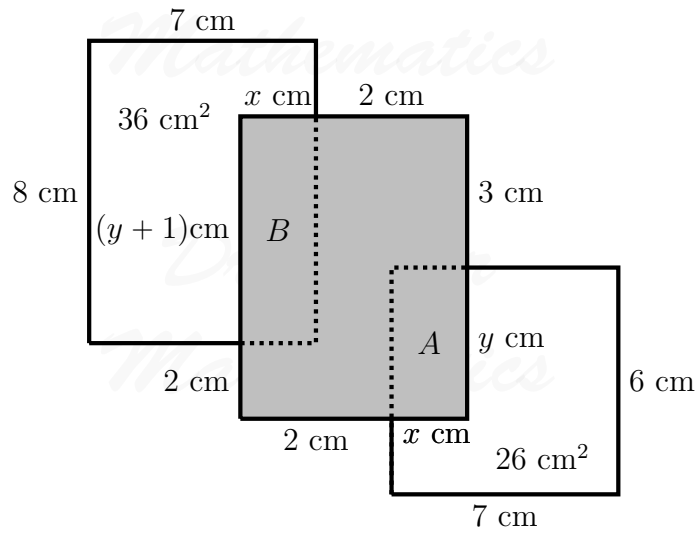
From: Nice Math, 13 August 2023

1. Find the area of the grey rectangle.



Solution

We draw a picture with the various lengths:



A:

$$\begin{aligned} A + 26 &= 6 \times 7 \Rightarrow xy + 26 = 42 \\ &\Rightarrow xy = 16 \quad (1). \end{aligned}$$

B:

$$\begin{aligned} B + 36 &= 7 \times 8 \Rightarrow x(y + 1) + 36 = 56 \\ &\Rightarrow x(y + 1) = 20 \\ &\Rightarrow xy + x = 20 \quad (2). \end{aligned}$$

Do (2) – (1):

$$x = 4.$$

Substitute into (1):

$$4y = 16 \Rightarrow y = 4.$$

Finally,

$$\begin{aligned} \text{area of the grey rectangle} &= (x + 2)(y + 3) \\ &= (4 + 2)(4 + 3) \\ &= (6)(7) \\ &= \underline{\underline{42 \text{ cm}^2}}. \end{aligned}$$