

Key

NAME _____

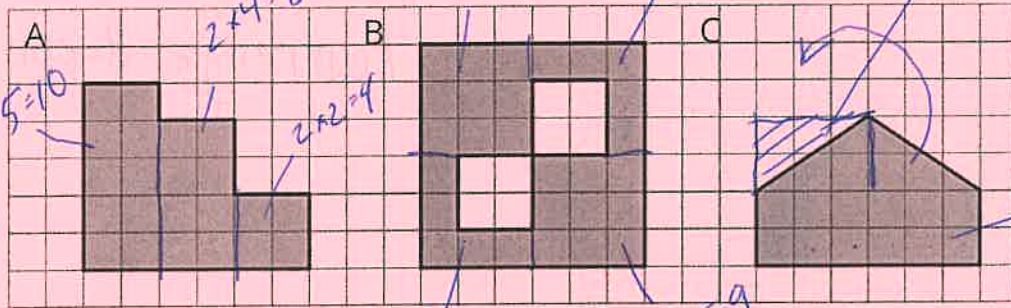
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Unit 1, Lesson 3: Reasoning to Find Area

1. Find the area of each shaded region. Show your reasoning.

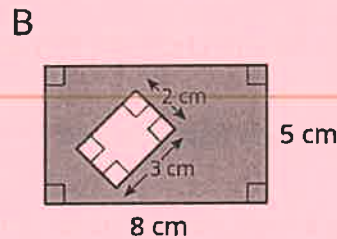
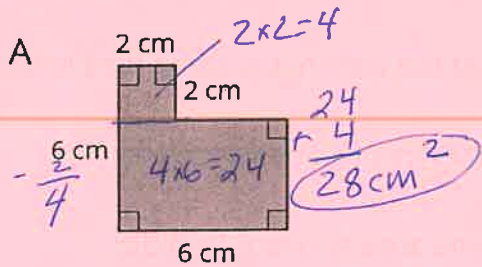
$$\begin{array}{r} 10 \\ + 8 \\ \hline 18 \\ + 4 \\ \hline 22 \text{ un}^2 \end{array}$$



$$\begin{array}{r} 9 \\ + 9 \\ \hline 18 \\ + 5 \\ \hline 23 \\ + 5 \\ \hline 28 \text{ un}^2 \end{array}$$

$$\begin{array}{r} 12 \\ + 6 \\ \hline 18 \text{ un}^2 \end{array}$$

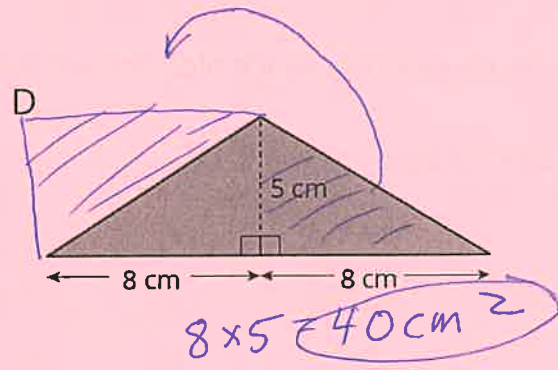
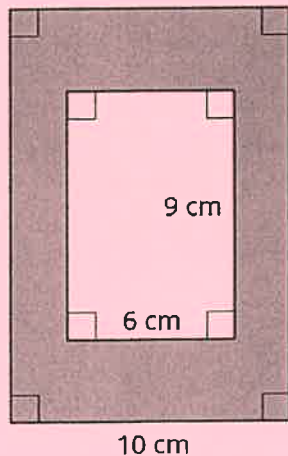
2. Find the area of each shaded region. Show or explain your reasoning.



Outside Area
 $5 \times 8 = 40$
 Inside Area
 $2 \times 3 = 6$
 $40 - 6 = 34 \text{ cm}^2$

C

Outside
 $10 \times 15 = 150 \text{ cm}^2$
 Inside
 $9 \times 6 = 54 \text{ cm}^2$
 $150 - 54 = 96 \text{ cm}^2$



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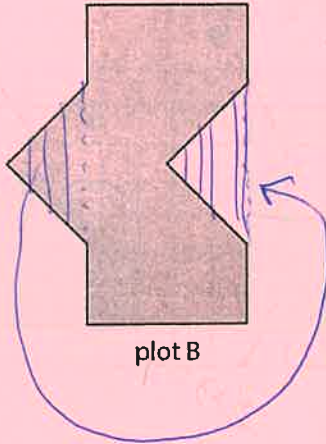
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3. Two plots of land have very different shapes. Noah said that both plots of land have the same area.



plot A



plot B

Do you agree with Noah? Explain your reasoning.

Yes
Rearrange doesn't change 😊

4. A homeowner is deciding on the size of tiles to use to fully tile a rectangular wall in her bathroom that is 80 inches by 40 inches. The tiles are squares and come in three side lengths: 8 inches, 4 inches, and 2 inches. State if you agree with each statement about the tiles. Explain your reasoning.

- a. Regardless of the size she chooses, she will need the same number of tiles.
- b. Regardless of the size she chooses, the area of the wall that is being tiled is the same.
- c. She will need two 2-inch tiles to cover the same area as one 4-inch tile.
- d. She will need four 4-inch tiles to cover the same area as one 8-inch tile.
- e. If she chooses the 8-inch tiles, she will need a quarter as many tiles as she would with 2-inch tiles.

(from Unit 1, Lesson 2)