

MathFLIX CHALLENGE

Using Formulae

Part I

The formula for the perimeter of a rectangle is $p = 2(l + w)$, which means the perimeter is equal to two times the length plus the width. Use the metric (hint, centimeters!) part of your ruler to draw the following rectangles on the back of this paper. Use the formula above to find the perimeter of each rectangle.

$$\begin{aligned}\#1) \quad w &= 6\text{cm} \\ l &= 4\text{cm} \\ p &= \end{aligned}$$

$$\begin{aligned}\#2) \quad w &= 3\text{cm} \\ l &= 7\text{cm} \\ p &= \end{aligned}$$

$$\begin{aligned}\#3) \quad w &= 5\text{cm} \\ l &= 5\text{cm} \\ p &= \end{aligned}$$

Which rectangle could represent ...a walk around the playground? # _____
...a walk around a yard? # _____ ...a frame around a picture? # _____

Part II

The formula for the area of a rectangle is $a = lw$. Use the metric part of your ruler to draw the following rectangles on the back of this paper. Use the formula above to find the area of each rectangle.

$$\begin{aligned}\#4) \quad w &= 6\text{cm} \\ l &= 4\text{cm} \\ a &= \end{aligned}$$

$$\begin{aligned}\#5) \quad w &= 2\text{cm} \\ l &= 12\text{cm} \\ a &= \end{aligned}$$

$$\begin{aligned}\#6) \quad w &= 8\text{cm} \\ l &= 3\text{cm} \\ a &= \end{aligned}$$

Which rectangle could represent ...a yard to be seeded with grass? # _____
...a wall to be painted? # _____ ...a window in a wooden door? # _____

Part III

The formula for the volume of a rectangular solid is $v = lwh$. Use the metric part of your ruler to draw the following rectangular solids on the back of this paper. Use the formula above to find the volume of each rectangular solid.

$$\begin{aligned}\#7) \quad w &= 3\text{cm} \\ l &= 2\text{cm} \\ h &= 4\text{cm} \\ v &= \end{aligned}$$

$$\begin{aligned}\#8) \quad w &= 2\text{cm} \\ l &= 2\text{cm} \\ h &= 6\text{cm} \\ v &= \end{aligned}$$

$$\begin{aligned}\#9) \quad w &= 3\text{cm} \\ l &= 8\text{cm} \\ h &= 1\text{cm} \\ v &= \end{aligned}$$

Which rectangular solid could represent ...the volume of water in a swimming pool?
_____ ...the volume of cereal in a box? # _____ ...the volume of a toy box? # _____