# Libly Side Quest – Dividing Up the Home!

The Libly are a society of frog-like people who live on giant lily pads. They have strong traditions, particularly regarding their lily pads. Cirika has offered to explain:

"As you might know, we build our homes on top of very large lily pads and we divide up the area into four different sections. The first section is used for the house. The second is meant for our garden. The third is an area where we play and spend time with friends and family. And, the last section is reserved for frogs.
Our neighbors are building a new home and we've offered to help them. This is my first time helping to build a home and I'm not very good with fractions yet, so please help me divide up their lily pad correctly…"

Task: You will be helping Cirika to divide up her neighbor's lily pad according to Libly traditions… " $\frac{9}{20}$ of the lily pad is used for the house. $\frac{1}{4}$ is needed for the garden. The play area uses $\frac{1}{5}$ of the lily pad. And, $\frac{1}{10}$ is reserved for the frogs."

Please look at the following page for further instructions…
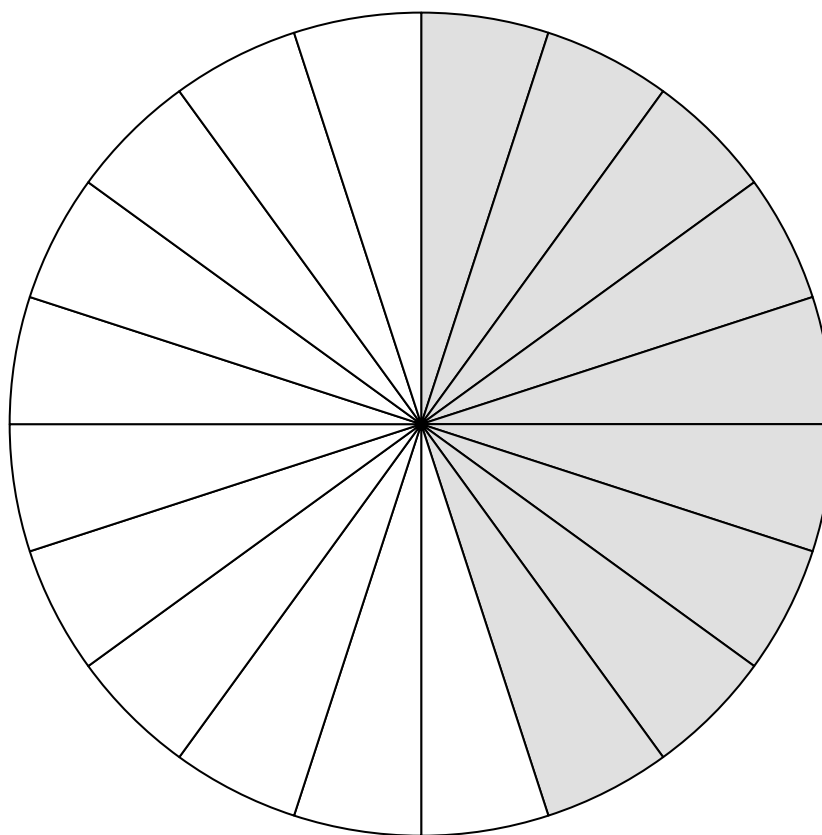
House
$\frac{9}{20}$ of the lily pad.
162° of the circle.

The LCM of 4, 5, 10, and 20 is 20, which is why the circle/lily pad is divided into 20 pieces…

Part I – Equivalent Fractions: You will need to figure out how many pieces of the circle each section takes up by finding equivalent fractions. The equivalent fraction you need will have the LCM, which is 20, as the denominator. (3 Marks)

- $\dfrac{1}{4} = \dfrac{}{20}$

- $\dfrac{1}{5} = \dfrac{}{20}$

- $\dfrac{1}{10} = \dfrac{}{20}$

Part II – Angles: A circle has exactly 360°. Since the lily pad is divided into 20 pieces, then each piece has $(\frac{1}{20}$ of 360°$) = 1$ x (360°/20) = 18°. Figure out how many degrees each section has. (You may use a protractor, or solve it numerically). (3 Marks)

- $\frac{9}{20}$ of 360° = 9 x $(\frac{360°}{20})$ = 9 x (18°) = 162°

- $\frac{1}{4}$ of 360° = $\frac{}{20}$ of 360° =

- $\frac{1}{5}$ of 360° = $\frac{}{20}$ of 360° =

- $\frac{1}{10}$ of 360° = $\frac{}{20}$ of 360° =

Part III – Coloring and Labeling: Now that you have all the information you need, color and label the circle on the first page like the example shown. (3 Marks)

Part IV – Classifying Angles: Take each of the four angles and state whether they are acute, right, obtuse, or straight angles. (1 Mark)