Do you remember from the RCAF Flyer's story that the players needed those exhibition games for practice? Apart from having to learn to work with each other, they also needed to adjust to the size of the international rink which European teams play on and which is used during the Olympics.

Not surprising, the size of the international rink is measured in m but the length of the ice is only marginally longer, about 4 cm or about 1.5 inches. The width however is a different story.

In North America (let's just call it the NHL rink) the rink size is
200 feet X 85 feet or 61m X 26m (slightly rounded for simplicity)

The International (let's call it the IHF rink) rink size is:
61m X 30m or 200 feet X 100 feet (again rounded for simplicity)

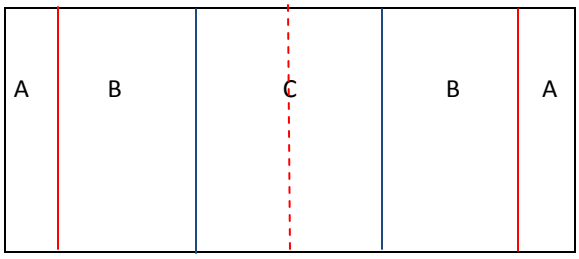
So what is the width difference between the two rinks?

From our kite math lesson (part of the Silver Dart activity) you should remember how to calculate the **surface area** of a simple shape. If we are going to ignore the rounded corners of the rink and pretend it is a rectangle, what is the surface area of each rink?

NHL IHF

The additional width is however not the only difference NHL players need to adjust to.
The distribution of the ice sheet's various sections also differs between the NHL and the IHF, despite the fact that the length of the ice sheet is the same.

There are five zones that comprise a hockey rink:



The distance between the two lines that mark each section are as follows:

NHL: A 11 feet B 64 feet C 50 feet

IHF: A 13 feet B 58 feet C 58 feet

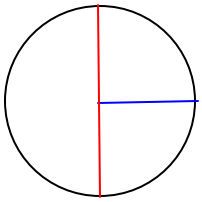
Can you figure out the surface area of the individual sections?

When you add them all up, you should get the same number as the total surface you calculated.

Kudos to you if you did this without a calculator.

How about trying to calculate some other surface areas that are part of the rink? (Grade 8)

The most prominent features are the faceoff circles. These circles have a **diameter** of 30 feet, which means if you draw a straight line from one point of the circle to another, that line is 30 feet long. The **radius** of a circle is the distance from the centre to the edge of the circle which is 15 feet or half the size of the diameter.



What is the area of the face off circle?

The second area is the crease of the goalie. This area is a semi circle and has diameter of 8 feet.

The area of the crease is:

And here is one last problem, what percentage of the respective zone areas (NHL and IHF) are cover by the faceoff circles?

In an NHL rink the faceoff circles cover % of the attack/defence zone.

In an IHF rink the faceoff circles cover % of the attack/defence zone.