

# Traveling Math

## Activity 4 - Distance to the Horizon

Have you ever been out on a leisurely walk and suddenly wondered, “How far it is to the horizon?” Or maybe while on a boat, your destination is a port that has a lighthouse and you wonder, “How far away will I be when I see the lighthouse?” How could you use your math skills to figure it out?

If you want to know the distance to the horizon you simply have to know your height of eye. That is the distance that your eyes are off the surface of the water. If you’re in a small boat, that would probably be about three feet. If you are on the tuna tower of a sport fishing boat, you may be 15, 20 or 25 feet above the surface of the water.

Once you know your height of your eye you simply plug that into the following formula:

***1.17 times the square root of your height of eye = Distance to the horizon in nautical miles***

For example, if your height of eye was 9 feet above the surface of the water, the formula would be: 1.17 times the square root of 9 = Distance to the horizon in nautical miles

$$(1.17 \times 3 = 3.51 \text{ nautical miles}).$$

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# Can you believe THIS is math?