Nautical Charts Worksheet

This image is a portion of a nautical chart for the San Francisco Bay in California.

Question 1: The numbers on the nautical chart above indicate the depth of the water, in feet.

What is the deepest depth on the chart? _______ What is the shallowest depth? _______

Circle the deepest and the shallowest depths on the nautical chart.

Question 2: All the black dots with the purple (or dark) arrows pointing towards them are beacons. Beacons are like small floating lighthouses that flash a certain color of light.

How many beacons are indicated on the chart? _______

Beacons
Sailors use beacons to determine where they are and in which direction they should be headed. Beacons, such as a buoy or lighthouse, serve as landmarks to help you find your way. If you are traveling towards land, the green beacons are markers for the left side of the road, and the red beacons are markers for the right side. Together, these beacons form a “road” in the sea.
So how do we tell which color the beacons are? On the chart above, find the beacon marked: Fl \( G \) 2s 14ft “1” and put an “X” on it using a green pencil. The notation next to each beacon mark indicates five characteristics, each telling us something different about the beacon.

**What Does the Beacon Notation Mean?**

- **Fl** Indicates the beacon type. “Fl” is a flashing beacon.
- **G** Indicates the beacon color. “G” indicates green, so this beacon flashes green light.
- **2s** Indicates the time between each flash. “2s” tells us it flashes every 2 seconds.
- **14ft** Indicates the beacon height. “14ft” indicates that this beacon is 14 feet tall.
- **“1”** Indicates the beacon number. In this case, this is beacon number one.

**Question 3:** Find the beacon marked: Fl \( R \) 2s 14ft “2.” Using a red pencil, put an “X” on it.

- What type of beacon is this? __________
- How often does it flash? ________________

- What color is this beacon? __________
- How high is this beacon? ________________

- What number is this beacon? __________

**Question 4:** Locate all the green beacons and put an “X” on them with a green pencil. Find all the red beacons and put an “X” on them with a red pencil.

- How many green beacons are there? ___________
- How many red beacons are there? ___________

**Question 5:** If you are heading towards land, or to dock your boat near shore, the green beacons are markers for the left side of the “road,” and the red beacons are markers for the right side. Looking at the nautical chart, find the dotted line that shows the “road” to get into the harbor. Mark this “road” with a purple pencil.

**Question 6:** There are all kinds of landmarks and obstacles (sometimes also used as landmarks) that sailors watch for and avoid, such as stakes, piles and pipes. The locations are usually marked with little open circles on the nautical chart. Using a red pencil, circle all the landmarks that sailors should avoid.

**Question 7:** Boats are designed in a variety of shapes and sizes. Some might sit 10 meters into the water. If you were sailing into the harbor on the chart, what would be the deepest your boat could be without scraping the bottom? __________