

14.4 Exercises

1. Solve $\sqrt{w} = 8$.
2. Solve $\sqrt{w} = -8$.
3. Solve $\sqrt{w - 2} = 8$.
4. Solve $2\sqrt{w - 2} + w = 8$.
5. Solve $\sqrt{w - 2} = 4 - \sqrt{w + 2}$. (challenge)
6. If a boat is 22 meters long and has a displacement of 22 cubic meters then the largest that area the sails S can be to qualify for a race satisfies

$$\frac{22 + 1.25\sqrt{S} - 9.8\sqrt[3]{22}}{0.686} = 24.$$

What is the largest that the area of the sails can be in cubic meters?

7. If a right triangle has hypotenuse 5 feet and the perimeter is 12 feet, what are the lengths of the legs of the triangle? Be sure to draw a picture, label it, and form an appropriate equation whose solution leads to an answer.