## **Rational Numbers**

Problems about Rational Numbers.

<b>Problem 1</b> Describe the set of rational numbers. Give some relevant and revealing examples/nonexamples.
<b>Problem 2</b> What algebraic properties do the rational numbers enjoy that the integers do not? Explain your reasoning.
<b>Problem 3</b> What number gives the same result when added to 1/2 as when multiplied by 1/2. Explain your reasoning.
<b>Problem 4</b> Draw a rectangle to represent a garden. Shade in 3/5 of the garden. Without changing the shading, show why 3/5 of the garden is the same as 12/20 of the garden. Explain your reasoning.
Problem 5 Shade in 2/3 of the entire picture below:
Explain your reasoning.
Problem 6 What fractions could the following picture be illustrating?  Explain your reasoning.
Learning outcomes: Author(s): Bart Snapp and Brad Findell

**Problem 7** When Jesse was asked what the 7 in the fraction  $\frac{3}{7}$  means, Jesse said that the "7" is the whole. Explain why this is not completely correct. What is a better description of what the "7" in the fraction  $\frac{3}{7}$  means?