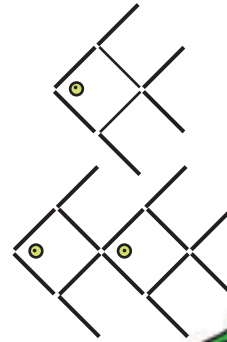# Eye Antics

Problem One

a. This fish is made with eight sticks and one button. Move just three sticks and the button to make a fish swimming in the opposite direction.

b. What is the smallest number of sticks that you will need to move to turn this figure into two fish swimming the other way? (You will also need to move the buttons.)

Problem Two

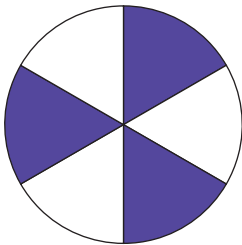Cut this shape into four pieces of the same size and shape as each other.
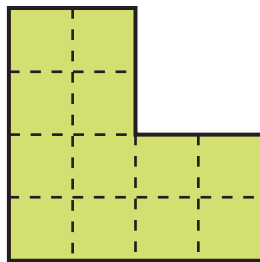
Problem Three

Using the digits 1, 2, and 3 once in each expression, write one or more expressions for the numbers 0, 1, 2, … 7, 8, 9.

You can use brackets and as many of the symbols +, −, x, ÷ as you need.

For example, two expressions for 5 are 3 + (1 x 2) and 3 x 2 − 1.

Problem Four

a. This circle shows $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{1}{2}$.
By shading in whole sectors of this circle, how many different ways could you show one-half?

b. How many ways could you show one-half if the circle was divided into eight sectors of the same size?

Applying problem-solving strategies