

# Problems of the Month

## May-August 2017

### General Problem:

At a particular grocery store, a six-pack of 16 ounce soda bottles costs \$3; a six-pack of 12 ounce soda cans costs \$2.50; a 2 liter bottle of soda costs \$2. Which is the best value?



$$\int f(x) dx$$

### Calculus Problem:

Find the integral below, and show your work.

$$\int \sqrt{1 - e^x} dx$$

### Challenge Problem:

Consider a differentiable function  $f$  such that  $f(f(x)) = x$  for all positive numbers. Suppose also that  $f(2) = 2$ . Find one example of such a function for each possible value of  $f'(2)$ .

