

# Problem of the Month (November)

Name Solution

Date Submitted \_\_\_\_\_

Time Submitted \_\_\_\_\_

Participation in a local soccer league this year is 10% greater than it was last year. The number of males increased by 5% and the number of females increased by 20%. What fraction of the league is now female?

4/11. If  $m$  and  $f$  are the current numbers of males and females, respectively, we have

$$\frac{m}{1.05} + \frac{f}{1.20} = \frac{m+f}{1.10},$$

or

$$\frac{m}{f} \left( \frac{1}{1.05} - \frac{1}{1.10} \right) = \frac{1}{1.10} - \frac{1}{1.20}.$$

Then

$$\frac{m}{f} = \frac{7}{4},$$

so that

$$\frac{m+f}{f} = \frac{11}{4}$$

and

$$\frac{f}{m+f} = \frac{4}{11}.$$

**\$10 prize for the first correct solution submitted to the receptionist.  
Deadline for submission – Mon. Nov. 21 @ 8:40 am**