

## Additional Practice

### Investigation 3

#### Bits and Pieces II

1. Find each product. Show your work.

a.  $\frac{2}{3} \times \frac{1}{2}$

b.  $\frac{3}{5} \times \frac{10}{9}$

c.  $\frac{3}{4} \times \frac{8}{9}$

d.  $\frac{3}{2} \times \frac{5}{6}$

e.  $\frac{2}{7} \times \frac{1}{3}$

f.  $\frac{3}{8} \times \frac{12}{15}$

g.  $\frac{9}{10} \times \frac{1}{6}$

h.  $\frac{1}{2} \times \frac{6}{7}$

i.  $360 \times \frac{7}{9}$

2. In a recent survey of 440 people,  $\frac{1}{4}$  said that they watched television every evening,  $\frac{2}{5}$  said they watched five or six nights each week, and the remainder said they watched four nights a week or less.

a. How many people in the survey watched television every evening? Explain how you found your answer.

b. How many people surveyed watched television five or six nights each week?

c. What fraction of the people surveyed watched television four nights each week or less? Explain how you found your answer.

d. How many people surveyed watch television four nights each week or less?

3. Jack and Phil are selling advertisements for the yearbook. A full-page ad will cost \$240. Advertisers who want only a fraction of a page will be charged that fraction of \$240. Jack and Phil's layout for one page is shown at the right.

a. What fraction of the whole page does each of the six regions occupy?

b. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area A? Explain how you found your answer.

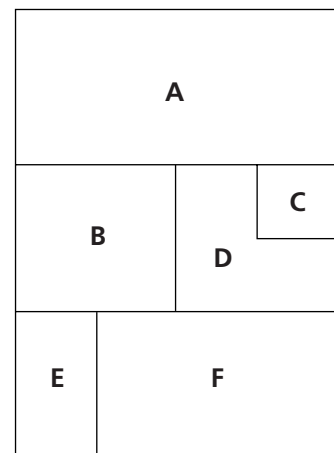
c. How much should Jack and Phil charge an advertiser who wants to place an ad that fills area D?

d. How much should an ad that fills area F cost?

e. Jack and Phil have sold advertising space in areas B, E, and C.

i. How much did they collect for the three ads?

ii. What fraction of the page is left for other advertisers?



**Additional Practice** *(continued)***Investigation 3****Bits and Pieces II**

4. A recipe for granola cookies calls for  $\frac{1}{2}$  cup of butter and  $\frac{1}{4}$  cup of chopped nuts. Because Jane likes moist cookies without too many nuts, she decides to increase the amount of butter by half and decrease the amount of chopped nuts by half.
- How much butter is required for Jane's new recipe? Explain how you got your answer.
  - What amount of chopped nuts is required for Jane's new recipe? Explain your reasoning.
  - Since Jane increased the butter by half and decreased the nuts by half, is the combined amount of butter and nuts the same as in the original recipe? Explain why or why not.
5. Paul has  $\frac{3}{5}$  of a roll of speaker wire left. His sister uses  $\frac{1}{4}$  of it to set up speakers in her room.
- How much of the whole roll of speaker wire did Paul's sister use?
  - What fraction of the whole roll is left? Explain your answer.
6. For each set of multiplication problems, determine whether the products are equal or whether one product is greater. Describe any patterns you see.
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| a. $\frac{1}{3} \times \frac{2}{5}$ and $\frac{2}{3} \times \frac{1}{5}$   | b. $\frac{7}{8} \times \frac{6}{5}$ and $\frac{6}{8} \times \frac{7}{5}$ |
| c. $\frac{3}{10} \times \frac{5}{9}$ and $\frac{5}{10} \times \frac{3}{9}$ | d. $\frac{3}{7} \times \frac{5}{8}$ and $\frac{5}{7} \times \frac{3}{8}$ |
7. If each person in North America throws away  $3\frac{2}{3}$  pounds of garbage each day, how many pounds of garbage does each person throw away in a year?