

Name \_\_\_\_\_

# 5-4 Lesson Master

**Questions on SPUR Objectives**  
See Student Edition pages 339–343 for objectives.

## SKILLS Objective A

In 1–4, an operation is shown involving rational expressions.

- a. Write the result as a single rational expression.
- b. State any restrictions on the variable(s).

1.  $\frac{6b+9}{2b+2} + \frac{-5b}{b+1}$

a. \_\_\_\_\_

b. \_\_\_\_\_

2.  $\frac{x^2+3}{2} - \frac{x+x^2+3}{x}$

a. \_\_\_\_\_

b. \_\_\_\_\_

3.  $\frac{1}{3p} + \frac{1}{p+1} + \frac{1}{5-p}$

a. \_\_\_\_\_

b. \_\_\_\_\_

4.  $\frac{m-n}{3mn} - \frac{m^2+1}{n-2}$

a. \_\_\_\_\_

b. \_\_\_\_\_

## USES Objectives K and L

5. A company hires  $N$  people to work on a construction project. All but four of the people work on Phase I of the project, and all but six of the people work on Phase II of the project. The company has a total of \$14,500 budgeted for labor expenses, \$7,500 allocated for Phase I and \$7,000 allocated for Phase II. All workers on a given phase of the project are paid equally.
  - a. Find an expression in terms of  $N$  for the wage received by a person who works only on Phase I. \_\_\_\_\_
  - b. Find an expression in terms of  $N$  for the wage received by a person who works only on Phase II. \_\_\_\_\_
  - c. Find a simplified expression in terms of  $N$  for the wage received by a person who works on both phases. \_\_\_\_\_
6. Abigail's current car gets 17 miles/gallon. She is considering buying one of two cars. One gets 24 miles/gallon; the other has a fuel efficiency of 27 miles/gallon. Abigail drives about 11,000 miles per year and gas costs about \$4.05 per gallon.
  - a. How much will Abigail save per year if she buys the more fuel efficient car? \_\_\_\_\_
  - b. The more fuel efficient car costs \$900 more. If she plans to keep the car at least 5 years, which car is the better buy?  
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