

Name

4-3B

Lesson Master

Questions on SPUR Objectives
See pages 245–249 for objectives.

USES

Objective I

Davena and Jess are both saving up for a \$400 scooter. Davena has \$125 saved and is saving at a rate of \$50 per week. Jess has only \$50 but is saving at a rate of \$75 per week.

1. Complete the table to tell who will get the scooter first.

Week	Davena	Jess
0		
1		
2		
3		
4		
5		

2. Write the expressions that describe Davena’s and Jess’s savings in terms of weeks.

3. What is the break-even point?

4. If the scooter had cost only \$175, would the answer to Question 1 change? Explain.

To rent a mid-size car in Chicago, Rent-With-Us charges \$37.99 per day plus 20¢ per mile. Best Bet charges \$39.99 per day plus 18¢ per mile.

5. Complete the table to determine which company charges less for driving 60 miles in a day.

Miles	Rent-With-Us	Best Bet
20		
40		
60		
80		
100		
120		

6. Write the expressions that describe the two companies’ charges.

Name

The Big Splash! water park has four swimming pools. *Deep Waters*, the 140,000-gallon pool, is being drained at a rate of 4,000 gallons per hour. *Baby Fins*, the 90,000-gallon pool, is being filled at a rate of 3,000 gallons per hour.

7. Complete the table to determine when the pools will contain the same amount of water.
-

Hours	Deep Waters (gal)	Baby Fins (gal)
5		
10		
15		
20		
25		
30		

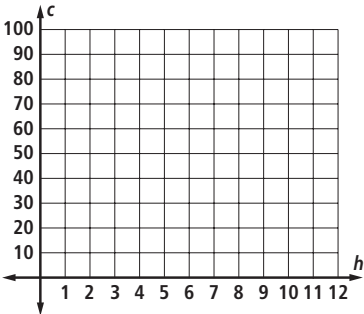
8. After how many hours will *Deep Waters* be empty?
-
9. How many hours will it take to fill *Baby Fins*?
-

REPRESENTATIONS

Objective L

In 10–13, a canoe rental company charges a \$20 fee plus \$15 per hour beyond 2 hours. Their competitor charges a \$25 set fee plus \$10 per hour beyond 2 hours.

10. Write equations for the first rental company, R_1 , and its competitor, R_2 , for their prices in terms of h hours when $h \geq 2$.
-
11. Graph both lines, with R_1 and R_2 as cost c on the y -axis and h on the x -axis. Label the graphs.



12. Use the intersection of the lines to determine the time at which the prices break even.
-
13. Write an inequality to describe for which hours R_1 is a better value and similar inequality for R_2 .