EXAMPLE 5 TAKS REASONINGMINItis Gtp Problem

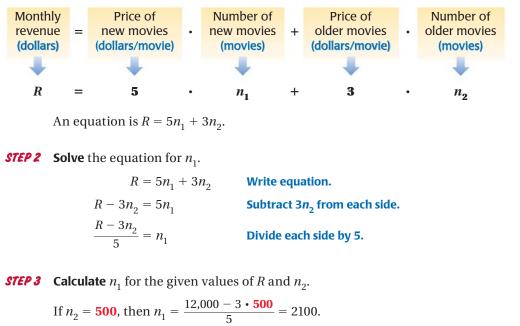
MOVIE RENTAL A video store rents new movies for one price and older movies for a lower price, as shown at the right.

- Write an equation that represents the store's monthly revenue.
- Solve the revenue equation for the variable representing the number of new movies rented.
- The owner wants \$12,000 in revenue per month. How many new movies must be rented if the number of older movies rented is 500? 1000?



Solution

STEP 1 Write a verbal model. Then write an equation.



If
$$n_2 = 1000$$
, then $n_1 = \frac{12,000 - 3 \cdot 1000}{5} = 1800$

• If 500 older movies are rented, then 2100 new movies must be rented. If 1000 older movies are rented, then 1800 new movies must be rented.

GUIDED PRACTICE for Example 5

- **14. WHAT IF?** In Example 5, how many new movies must be rented if the number of older movies rented is 1500?
- **15. WHAT IF?** In Example 5, how many new movies must be rented if customers rent *no* older movies at all?
- **16.** Solve the equation in Step 1 of Example 5 for n_2 .