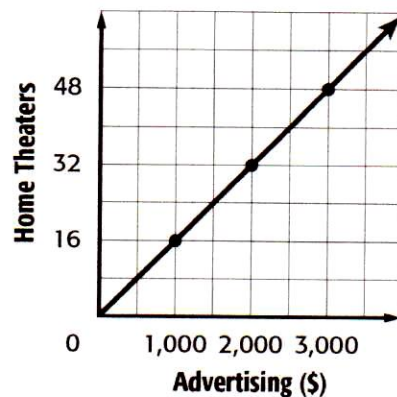


# Lesson 9 Homework Practice

## Direct Variation

1. **HOME THEATER** The number of home theaters a company sells varies directly as the money spent on advertising. How many home theaters does the company sell for each \$500 spent on advertising?



2. **DUNE BUGGY** Beach Travel rents dune buggies for \$50 for 4 hours or \$75 for 6 hours. What is the hourly rate?
3. **FERTILIZER** Leroy uses 20 pounds of fertilizer to cover 4,000 square feet of his lawn and 50 pounds to cover 10,000 square feet. How much does he need to cover his entire yard which has an area of 26,400 square feet?

Determine whether each linear function is a direct variation. If so, state the constant of variation.

4.

|              |     |     |     |     |
|--------------|-----|-----|-----|-----|
| Gallons, $x$ | 6   | 8   | 10  | 12  |
| Miles, $y$   | 180 | 240 | 300 | 360 |

5.

|                  |    |    |    |    |
|------------------|----|----|----|----|
| Time (min), $x$  | 10 | 11 | 12 | 13 |
| Temperature, $y$ | 82 | 83 | 84 | 85 |

6.

|                         |         |         |         |         |
|-------------------------|---------|---------|---------|---------|
| Number of Payments, $x$ | 6       | 11      | 16      | 21      |
| Amount Paid, $y$        | \$1,500 | \$2,750 | \$4,000 | \$5,250 |

If  $y$  varies directly with  $x$ , write an equation for the direct variation. Then find each value.

7. If  $y = -4$  when  $x = 10$ , find  $y$  when  $x = 5$ .
8. If  $y = 12$  when  $x = -15$ , find  $y$  when  $x = 2$ .
9. Find  $x$  when  $y = 18$ , if  $y = 9$  when  $x = 8$ .