NAME _____ DATE _____ PERIOD _____

# Test, Form 3B

SCORE _____

**For Exercises 1–5, consider the following situation.**

Marylou buys bagels for a number of office staff each day. Each bagel costs $1.75.

**1.** Write a function to represent the situation.

**1.** $y = 1.75x$

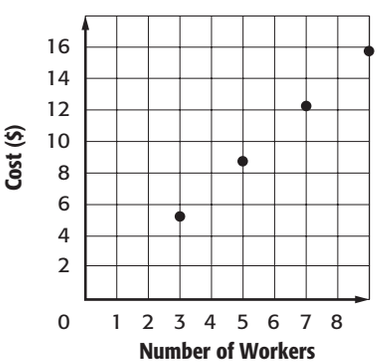
**2.** Make a function table to find the total cost if 3, 5, 7, or 9 office workers want bagels.

**2.**

| Number of Workers, $x$ | Cost of Bagels, $y$ |
|---|---|
| 3 | 5.25 |
| 5 | 8.75 |
| 7 | 12.25 |
| 9 | 15.75 |

**3.** Graph the function.

**3.**




**4.** State the domain and range of the function.

**4.** domain: {3, 5, 7, 9}; range: {5.25, 8.75, 12.25, 15.75}

**5.** Is the function continuous or discrete? Explain.

**5.** discrete; There can only be a whole number amount of workers.

**For Exercises 6 and 7, find each function value.**

**6.** $f(7)$ if $f(x) = -3x + 2$

**6.** −19

**7.** $f(-8)$ if $f(x) = 4x - 5$

**7.** −37

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NAME _____ DATE _____ PERIOD _____

# Test, Form 3B *(continued)*

SCORE _____

**8.** A cube has a side length of $s$ inches. The surface area of a cube is represented by the expression $6s^2$. The surface area of a cube is a function of the side length. Does this situation represent a linear or nonlinear function? Explain.

**8.** nonlinear; If you graph the function, the ordered pairs do not lie on a straight line.

**For Exercises 9–11, consider the following situation.**

The total cost of renting a lawn mower from Lawns Inc. is represented by the function $y = 10x + 15$, where $x$ represents the number of hours and $y$ represents the total cost. The cost of renting a lawn mower from Green Lawn is shown in the table.

| Number of Hours | Cost ($) |
|---|---|
| 2 | 38 |
| 3 | 47 |
| 4 | 56 |
| 5 | 65 |

**9.** Compare the functions' rates of change.

**9.** Lawns Inc.: \$10/hour; Green Lawn: \$9/hour. Lawns Inc. has a greater rate of change.

**10.** Find and interpret the initial value of renting from Green Lawn.

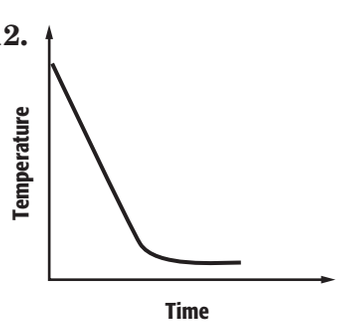
**10.** The initial cost of the rental is \$20.

**11.** Which company should you use if you rent the lawn mower for 6 hours?

**11.** Green Lawn

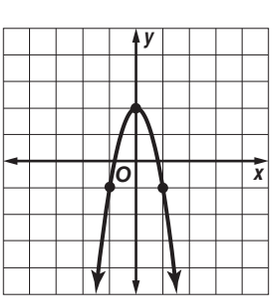
**12.** Sketch a qualitative graph that represents a cup of soup quickly cooling down.

**12.**




**13.** Graph $y = -3x^2 + 2$.

**13.**

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