

1. Smart Student Learning Center charges students a registration fee of \$25, plus an hourly rate of \$30 for after-school tutoring. Brilliant Student Learning Center charges students for after-school tutoring based on the table below.

Brilliant Student Learning Center

Hours of Tutoring (x)	Total Cost (y)
1	\$45
3	\$115
5	\$185
7	\$255

If a student needs 4 hours of tutoring, which statement is true?

- A. Smart Student Learning Center charges \$5 more than Brilliant Student Learning Center.
- B. Brilliant Student Learning Center charges \$5 more than Smart Student Learning Center.
- C. Smart Student Learning Center charges \$35 more than Brilliant Student Learning Center.
- D. Brilliant Student Learning Center charges \$35 more than Smart Student Learning Center.

2. Use Function S and Function T to answer the question.

Function S		Function T
x	y	$y = 4x + 6$
-6	-4	
-2	2	
2	8	
6	14	

Which statement is true about the Functions S and T?

- A. The slope of Function S is equal to the slope of Function T.
- B. The slope of Function S is steeper than the slope of Function T.
- C. The slope of Function S is not as steep as the slope of Function T.
- D. The relationship between the slopes of Functions S and T cannot be determined.

3. Mermaid Swimming Club uses the equation $w = 25h + 40$ to calculate the total cost, w , of h hours of swim lessons. Dolphin Swimming Club uses the table below to calculate the cost of swimming lessons for its customers.

Hours (h)	Total Cost (w)
2	\$110
4	\$155
6	\$200

For 7 hours of swimming lessons, which club is less expensive and by how much?

- A. Dolphin Swimming Club, by \$2.50
- B. Mermaid Swimming Club, by \$2.50
- C. Dolphin Swimming Club, by \$7.50
- D. Mermaid Swimming Club, by \$7.50

4. Pizza Village uses the equation $y = 1.10x + 9$ to calculate the cost of a cheese pizza with x additional toppings. The table below shows the cost of cheese pizza from Mama Mia's based on the number of additional toppings.

Number of Toppings	Total Cost
3	\$11.75
5	\$14.25
8	\$18.00

Which statement is true?

- A. Mama Mia's charges \$2.82 more per topping than Pizza Village.
- B. Pizza Village charges \$2.82 more per topping than Mama Mia's.
- C. Mama Mia's charges \$0.15 more per topping than Pizza Village.
- D. Pizza Village charges \$0.15 more per topping than Mama Mia's.

THE CAR PROBLEM

Name _____

Multistep Equations in Context

Suppose the Allmans want to rent a convertible for the day.

They have a choice of two rental companies:

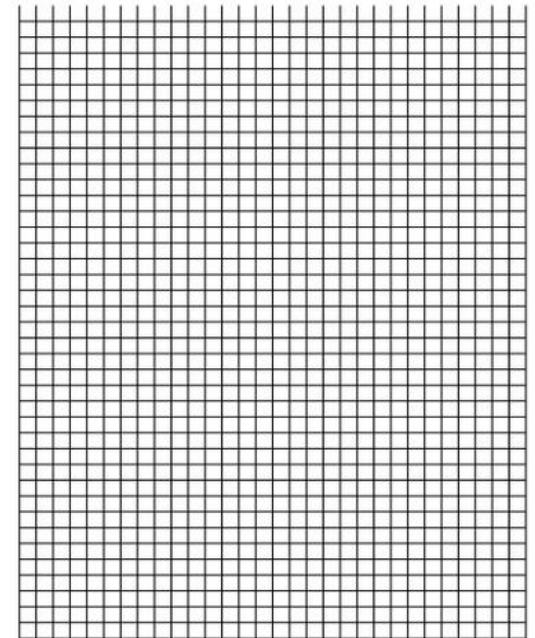
- A one-day rental at **Nifty Car Rental** costs \$30 plus 60 cents per mile.
- A one-day rental at **Shazam Car Rental** costs \$55 but only charges 35 cents per mile.



- 5 Use your functions and tables to make your best possible comparison graph that represents the costs for both companies.



Nifty vs Shazam Car Rental Comparisons



- 1 Make a good data table:

# of miles driven									
Nifty									
Total Cost (\$)									
Shazam									
Total Cost (\$)									

- 2 Write a function for each car rental company that expresses the total cost in terms of the number of miles driven. (Use C for cost and m for miles.)

Nifty Car Rental

Shazam Car Rental

- 3 If the Allmans drive 225 miles, which company would be a better deal? Explain.

- 4 If the Allmans only have \$80 to spend, which company would be a better deal? Explain.

- 6 At what number of miles will the two companies cost the same? _____

Circle the place on the graph that verifies this.

Then use your functions to **prove your solution** with an algebraic method.