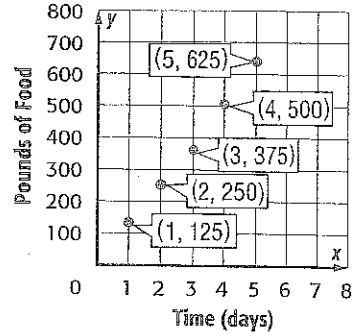


Guided Practice



1. A tiger in captivity is fed 13.5 pounds of food a day. The graph shows the pounds of food an elephant in captivity eats per day. Compare the functions by comparing their rates of change. (Example 1)



Show your work

2. Carol's profit at a craft fair is represented by the function $p = 5b - 15$, where p is the profit and b is the number of bracelets she sells. Kate's profit is shown in the table. (Examples 2 and 3)

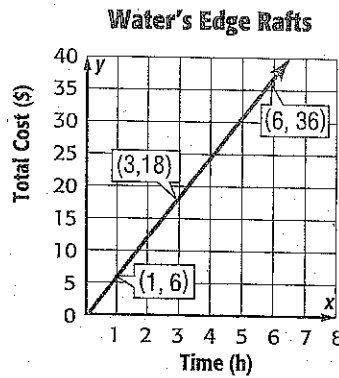
Bracelets Sold	Profit (\$)
1	5
2	10
3	15
4	20

- a. Compare the y-intercepts and rates of change.

- b. How much will each girl make if she sells 30 bracelets?

3. The cost to rent a raft from two different companies is shown. Which company should you use if you rent the raft for 9 hours?

(Example 4)

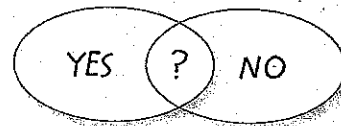


Ryan's Rafts	
Time (h)	Total Cost (\$)
1	15.00
2	17.25
3	19.50
4	21.75
5	24.00

4. **Building on the Essential Question** What are the advantages and disadvantages to representing a function as an equation instead of a graph?

Rate Yourself!

Are you ready to move on?
Shade the section that applies.



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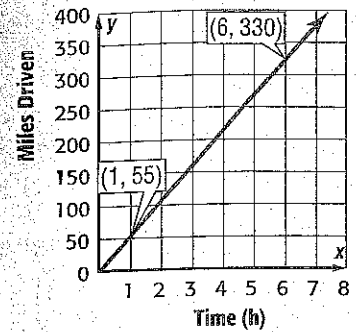
Independent Practice

Go online for Step-by-Step Solutions



1 For the first leg of the Ramirez family's trip, their speed averages 68 miles per hour. The second leg is shown in the graph. Compare the speeds for each part of their trip. (Example 1)

Show your work.



2. The late fees for a school library are represented by the function $c = 0.25d$, where c is the total cost and d is the number of days a book is late. The fees charged by a city library are shown in the table. (Examples 2 and 3)

Days Late	1	2	3
Cost (\$)	1.25	1.50	1.75

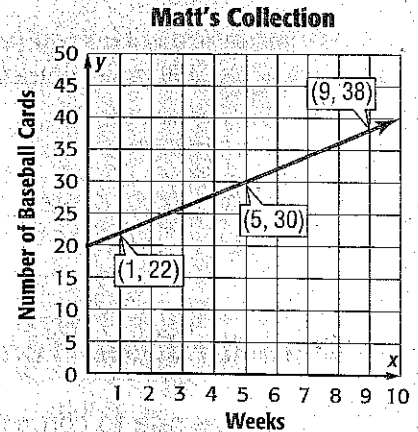
a. Compare the functions' y-intercepts and rates of change.

b. Shamar checks out one book at each library and returns both books

3 days late. What are the late fees for each library? _____

3 Matt and Seth purchase baseball cards each week. The amount of cards they each have in their collection is shown in the graph and table. Who will have more cards in Week 20? Justify your response. (Example 4)

Seth's Collection	
Week	Number of Cards
1	4
2	8
3	12



4. The Shaw family is building a patio. One person can place the flagstone at a rate of 4.5 per hour. The equation $s = 11h$ represents the number of stones s that two people can place in h hours. How many more flagstones can 2 people place in 3 hours than one person? Explain.

5. **CCSS Reason Abstractly** Refer to the conversions in the tables below.

Cups	Ounces
1	8
2	16
3	24
4	32

Pints	Ounces
1	16
2	32
3	48
4	64

Quarts	Ounces
1	32
2	64
3	96
4	128

- a. Write a function for each table.

- b. If you graph the points, the graph for which function would have the steepest slope? Justify your response.

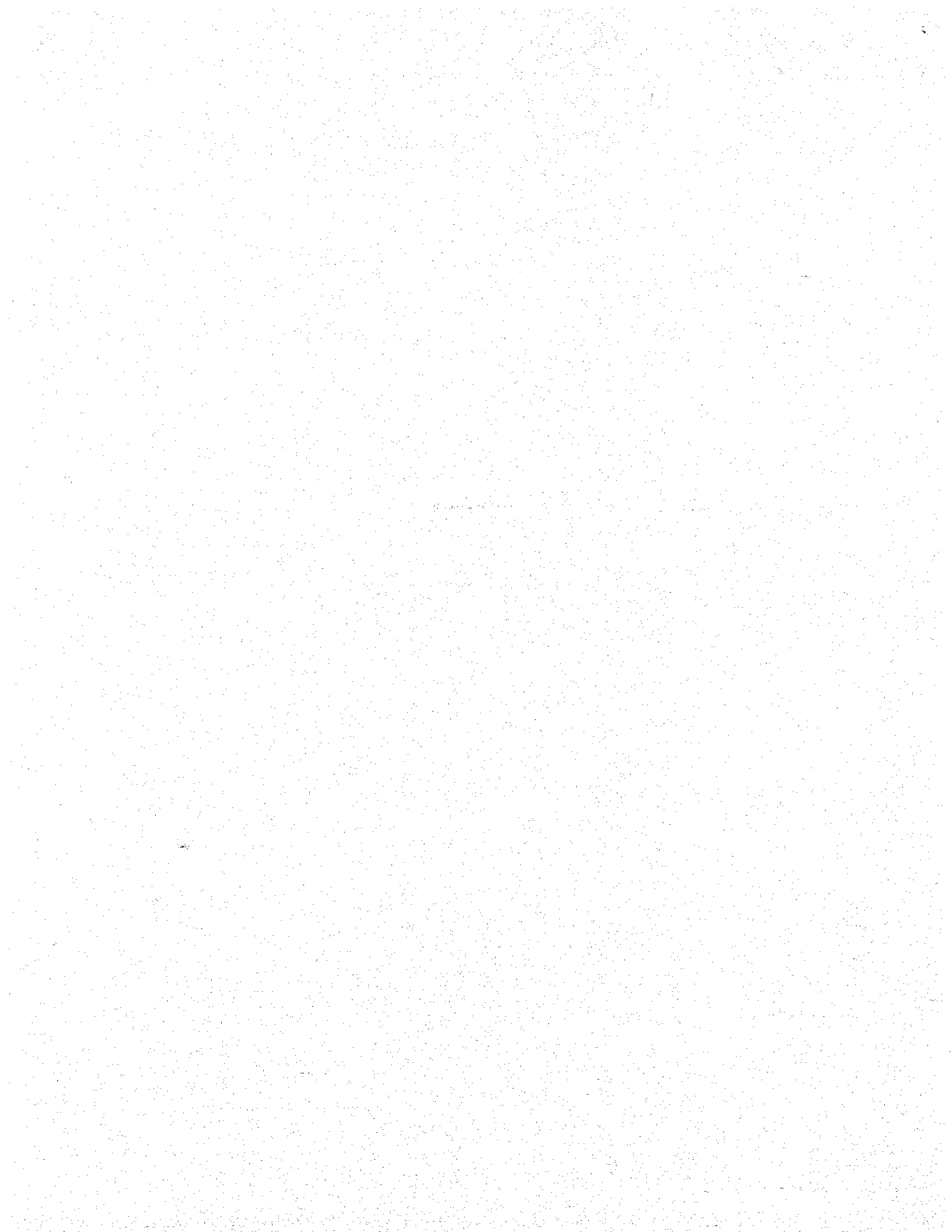
- c. Which function has the least rate of change? Explain.

H.O.T. Problems Higher Order Thinking

6. **CCSS Model with Mathematics** Write a real-world problem where you would want to compare rates of change for two different functions.
7. **CCSS Persevere with Problems** Explain why the graph of the function $y = 3x + 40$ will never intersect the graph of the function $y = 3x + 35$.

Standardized Test Practice

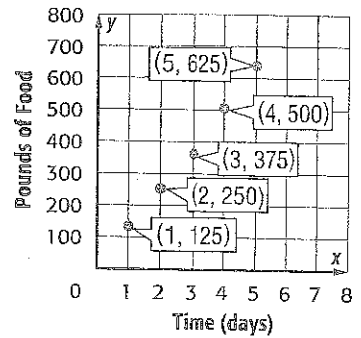
8. The exchange rate to convert U.S. dollars to British pounds is represented by the function $p = 0.61d$ where p is the amount in pounds and d is the number of dollars. One U.S. dollar can also be exchanged for 0.69 European euro. If you exchange \$250 for pounds and \$250 for euro, which of the following is true?
- (A) You will receive 152.5 pounds and 172.5 euros.
- (B) You will receive about 410 pounds and about 362 euros.
- (C) You will receive 250 dollars.
- (D) You will receive the same amount of pounds and euros.



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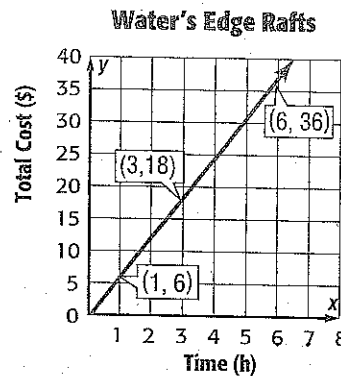
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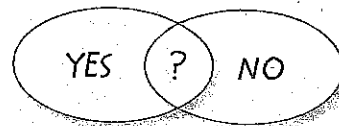
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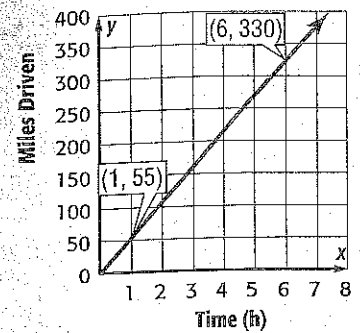
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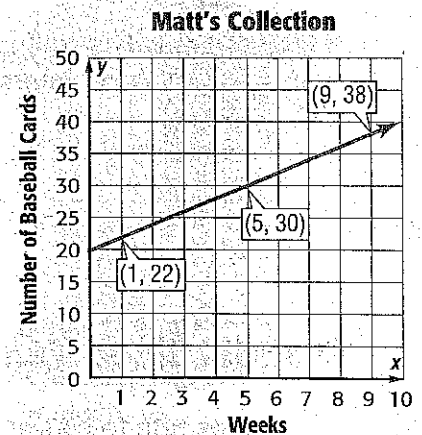
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