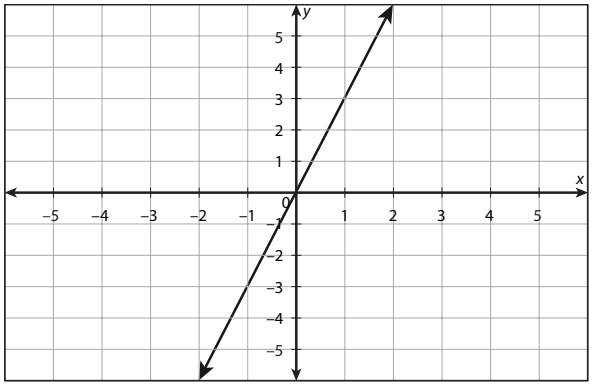
Name: **Date:**

Practice: Comparing Models A

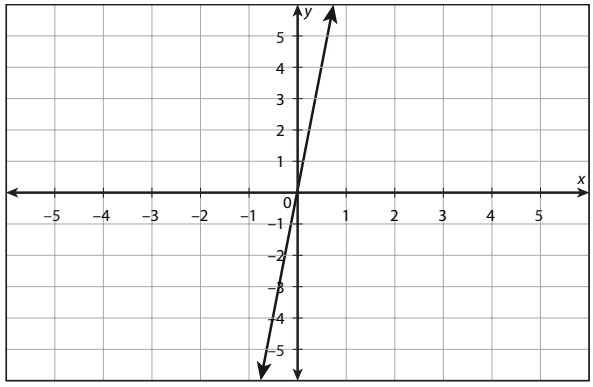
Use the given information to solve each problem.

1. Which of the following has a greater slope?

Graph A



Graph B



2. Deanne has started a lemonade stand. In her first plan, she will sell cups of lemonade for $1 apiece. In her second plan, she will give away 5 $2 lemonade coupons and charge $2 for each cup. Which of the two functions will yield a greater profit after selling 5 cups? After 10 cups?

3. Down the street, Nicole has also started a lemonade stand. She increases her price for every cup sold. Her profit can be modeled by the function $f(x) = 0.5(2)^x$, where x represents the number of cups sold. How much will it cost for 3 cups of lemonade? Is it cheaper or more expensive than Deanne's lemonade stand if Deanne chooses her first plan?

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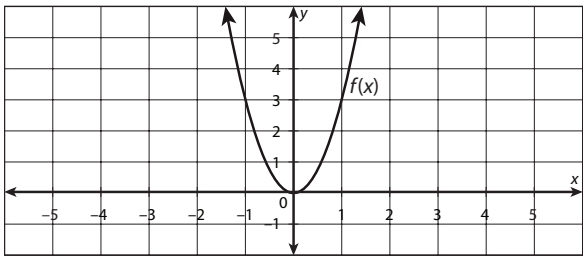
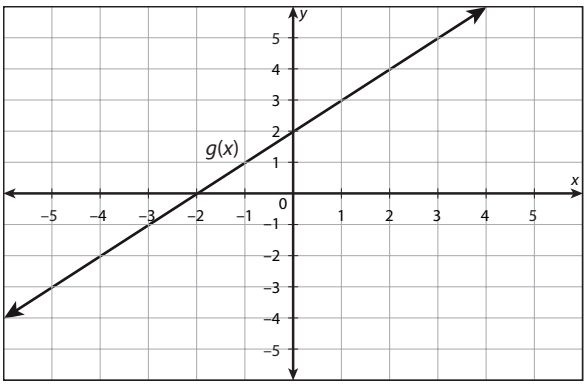
Name: **Date:**

4. Which of the following functions match the following graphs?





a. $f(x) = 3x^2, g(x) = x + 2$

b. $f(x) = x, g(x) = 3x^2 + 2$

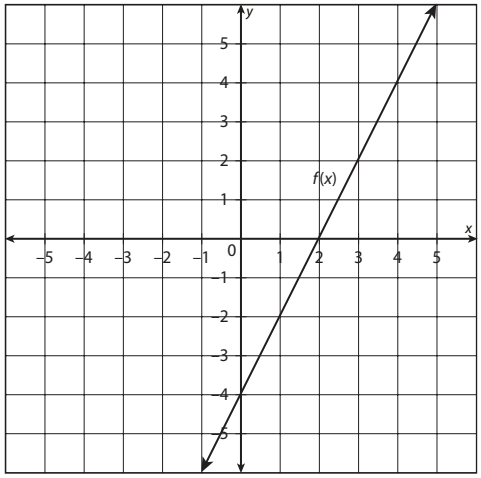
c. $f(x) = 3x^2, g(x) = x - 2$

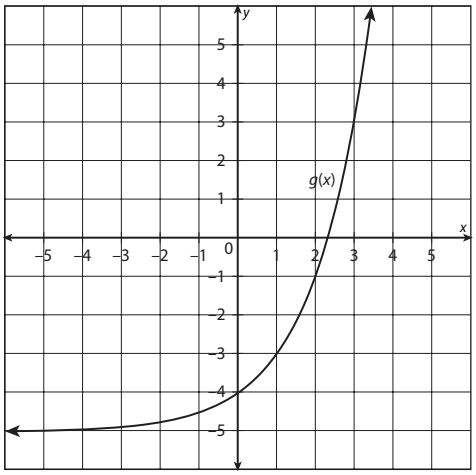
d. $f(x) = x + 2, g(x) = 3x^2$

5. In 2015, the number of tourists visiting Smalltown is given by the following table (in 3-month intervals). The number of tourists in 2016 can be plotted by the line $y = 92x$, where x represents 3-month intervals. Which function shows a greater increase in the last 3 months?

x	1	2	3	4
y	120	180	270	405

6. Using the following graphs, determine whether $x = 3$ is greater for $f(x)$ or $g(x)$.





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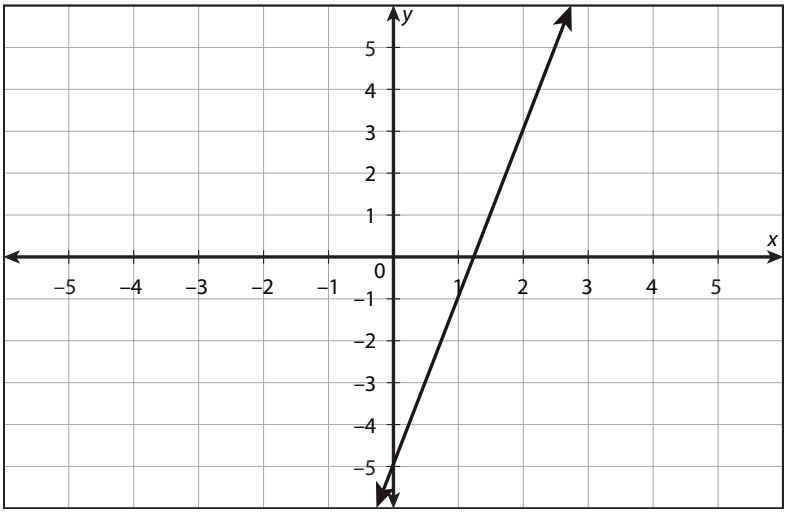
Name: **Date:**

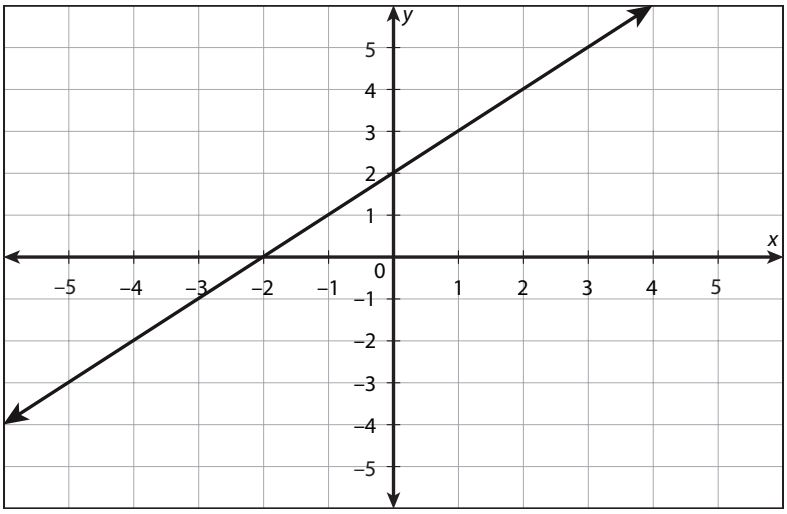
7. Using the following table and graph, determine which is greater when $x = 2$.

x	y
2	8
4	16
6	32
8	64



8. Determine whether the following equation or graph has a greater rate of change from $x = 0$ to $x = 1$.

$y = 2x^2 - 4$



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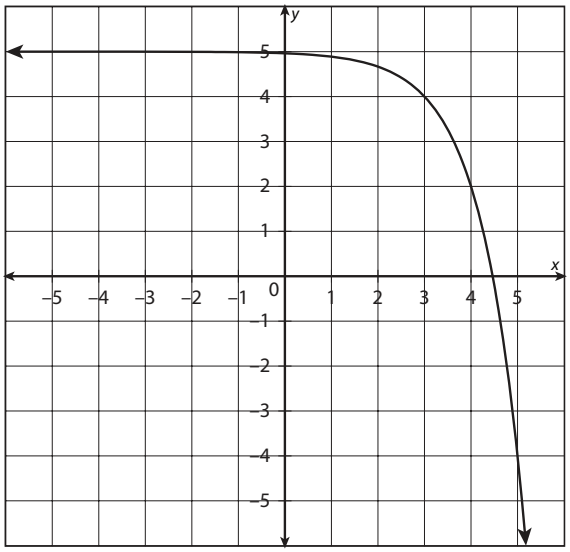
Name: **Date:**

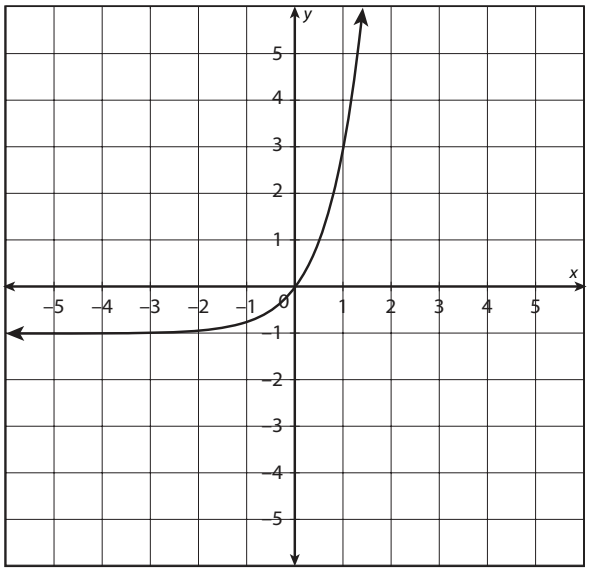
9. Determine whether the following equation or graph is greater when $x = 4$.

$y = -2x^2 - 1$



10. Let $f(x) = x^2 + 4x - 2$ and $g(x) = 4^x - 1$. Match each function with the following graphs:

Graph A



Graph B