Name: **Date:**

Scaffolded Practice: Comparing Linear to Exponential Functions

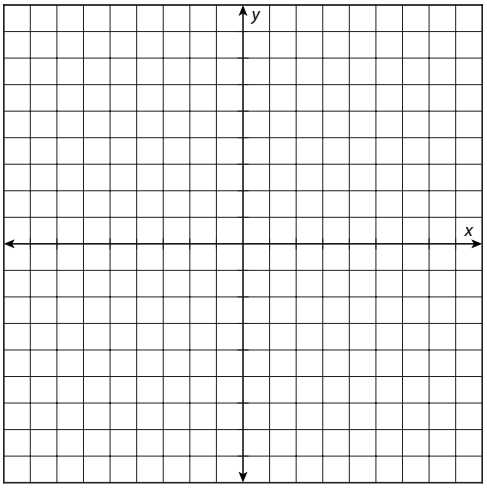
Complete each problem as directed.

1. Which function eventually increases faster as x increases, $f(x) = 25x$ or $g(x) = 2(5^x)$? Create a table of values to illustrate your answer.

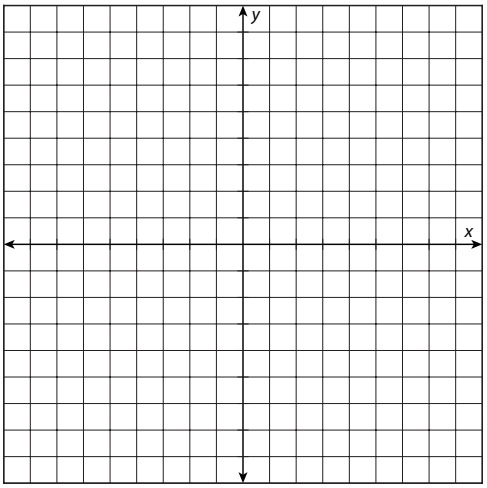
x	$f(x)$

x	$g(x)$

2. Which function eventually decreases faster as x increases, $f(x) = -x$ or $g(x) = -2(2^x)$? Sketch a graph to illustrate your answer.



3. Which function eventually changes faster as x increases, $f(x) = 3x - 4$ or $g(x) = 2 - 3^x$? Sketch a graph to illustrate your answer.



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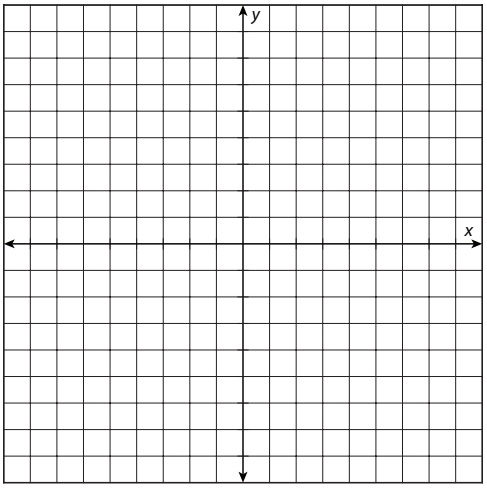
Name: **Date:**

4. Which function eventually changes faster as x increases, $f(x) = 15(1^x)$ or $g(x) = 2 + x$? Create a table of values to illustrate your answer.

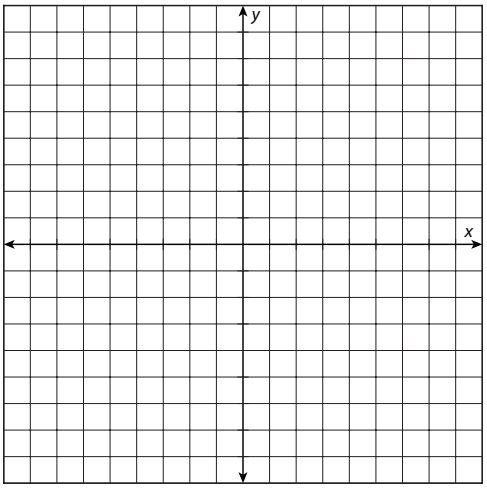
x	$f(x)$

x	$g(x)$

5. Which function eventually increases faster as x increases, $f(x) = 15(x + 1)$ or $g(x) = 2(5^x)$? Sketch a graph to illustrate your answer.



6. Which function eventually increases faster as x increases, $f(x) = (1 + 1)^x$ or $g(x) = 13x + 2$? Sketch a graph to illustrate your answer.



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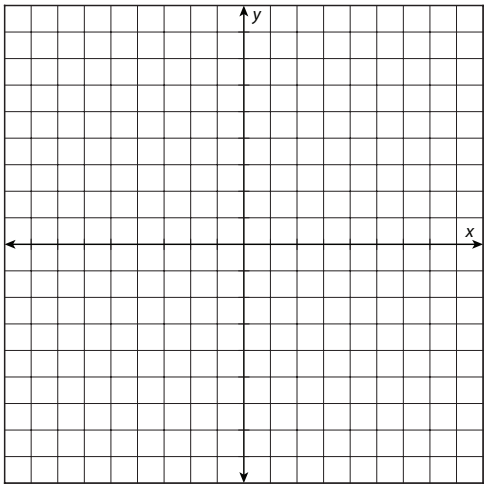
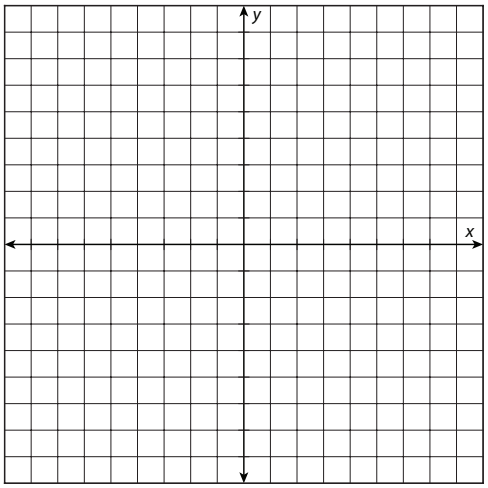
7. At what point does the value of $f(x)$ exceed the value of $g(x)$, where $f(x) = 4x - 2$ and $g(x) = 3^x - 3$? Sketch a graph to illustrate your answer.



8. At what point does the value of $g(x)$ exceed the value of $f(x)$, where $f(x) = 2x + 3$ and $g(x) = 3^x - 2$? Sketch a graph to illustrate your answer.



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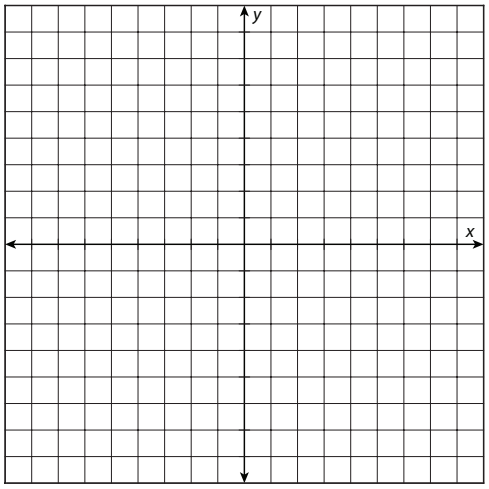
Name: **Date:**

9. At what point does the value of $g(x)$ exceed the value of $f(x)$, where $f(x) = 2(x + 1)$ and $g(x) = (1 + 3)^x$? Sketch a graph to illustrate your answer.



10. At what point does the value of $f(x)$ exceed the value of $g(x)$, where $f(x) = x + 1$ and $g(x) = (1 + 5)^{2x}$? Sketch a graph to illustrate your answer.