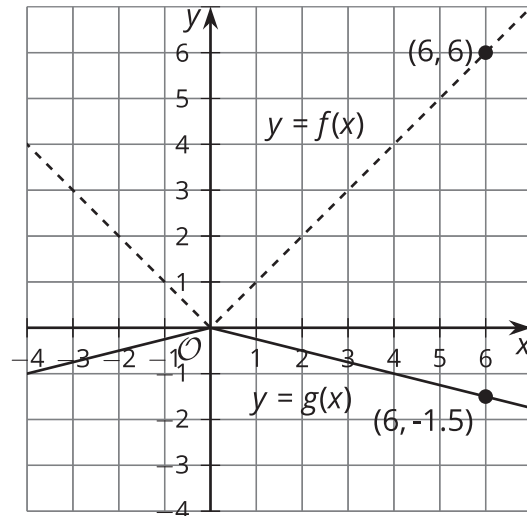
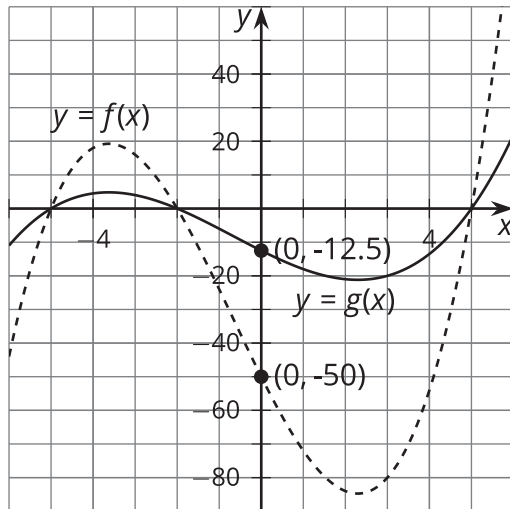
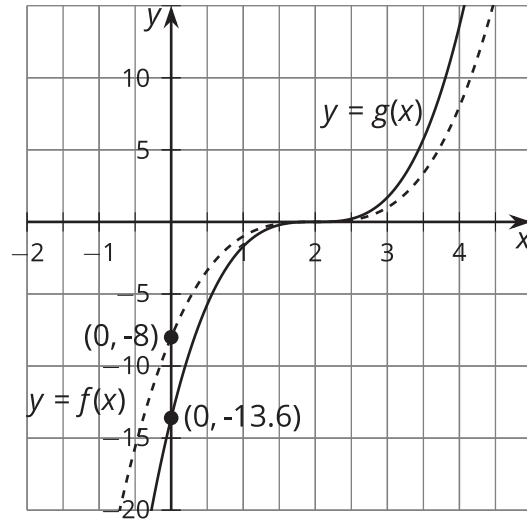
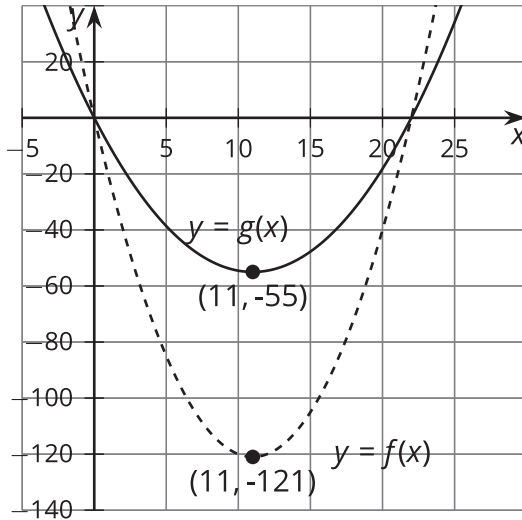
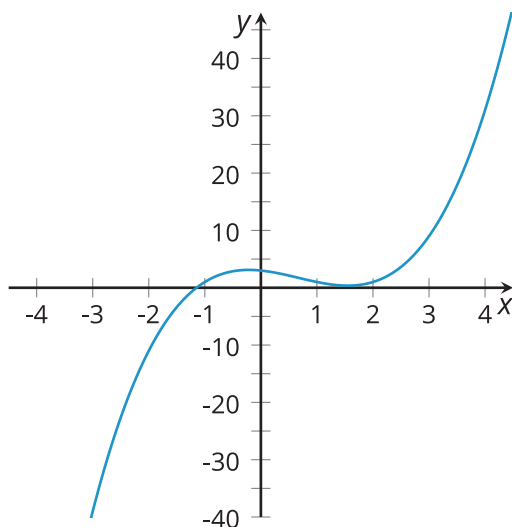


## Lesson 8 Practice Problems

1. In each pair of graphs shown here, the values of function  $g$  are the values of function  $f$  multiplied by a scale factor. Express  $g$  in terms of  $f$  using function notation.



2. Here is the graph of  $y = f(x)$  for a cubic function  $f$ .

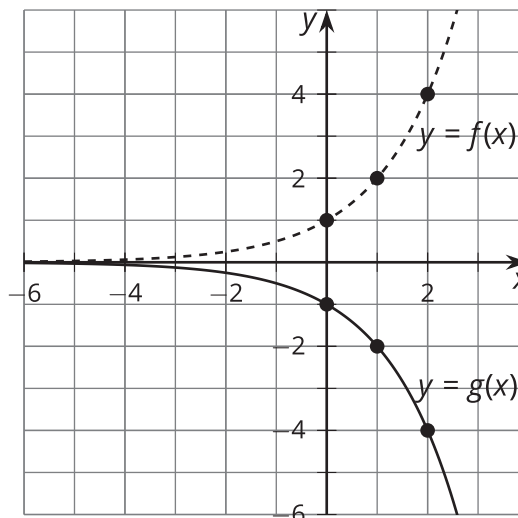


a. Will scaling the outputs of  $f$  change the  $x$ -intercepts of the graph? Explain how you know.

b. Will scaling the outputs of  $f$  change the  $y$ -intercept of the graph? Explain how you know.

3. The function  $f$  is given by  $f(x) = 2^x$ , while the function  $g$  is given by  $g(x) = 4 \cdot 2^x$ . Kiran says that the graph of  $g$  is a vertical scaling of the graph of  $f$ . Mai says that the graph of  $g$  is a horizontal shift of the graph of  $f$ . Do you agree with either of them? Explain your reasoning.

4. The dashed function is the graph of  $f$  and the solid function is the graph of  $g$ . Express  $g$  in terms of  $f$ .



(From Unit 5, Lesson 4.)

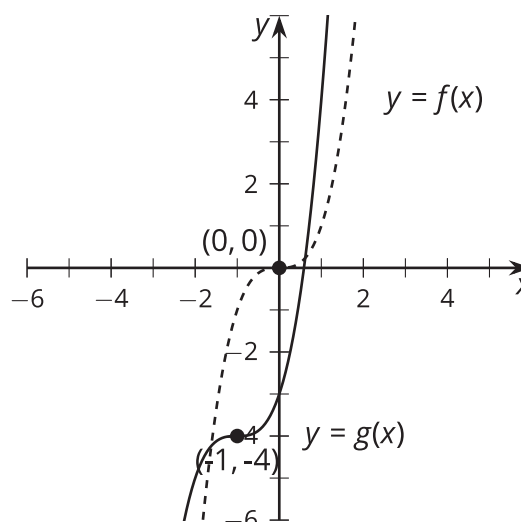
5. The table shows some values for an odd function  $f$ .

$x$	-4	-3	-2	-1	0	1	2	3	4
$f(x)$	-3		5		0	19		-11	

Complete the table.

(From Unit 5, Lesson 5.)

6. Here is a graph of  $f(x) = x^3$  and a graph of  $g$ , which is a transformation of  $f$ . Write an equation for the function  $g$ .



(From Unit 5, Lesson 7.)