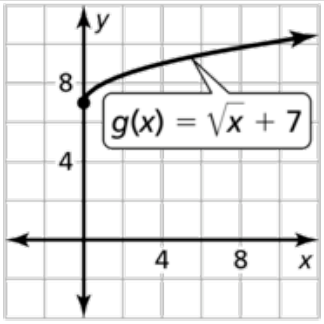
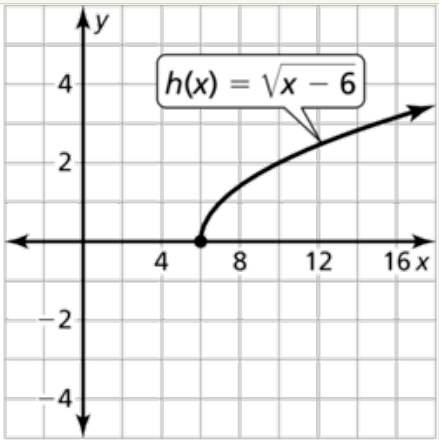
1.



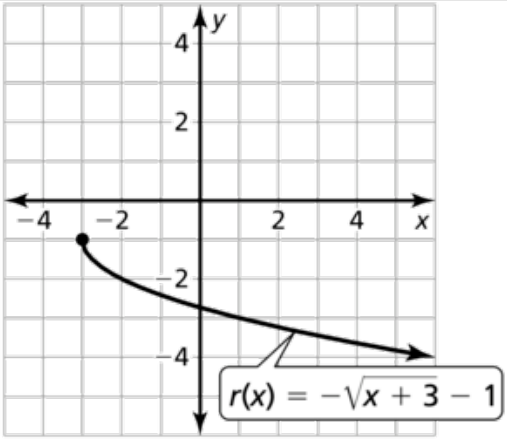
$x \geq 0$; $y \geq 7$; The graph of g is a translation 7 units up of the graph of f.

2.



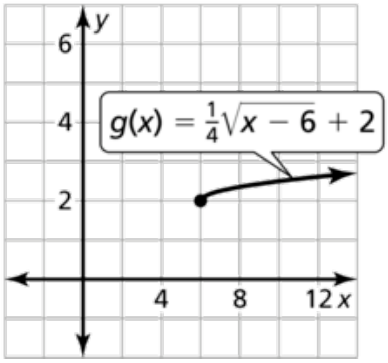
$x \geq 6$; $y \geq 0$; The graph of h is a translation 6 units right of the graph of f.

3.

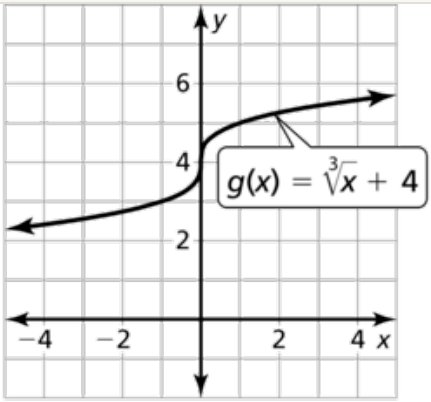


$x \geq -3$; $y \leq -1$; The graph of r is a translation 3 units left, a reflection in the x-axis, and a translation 1 unit down of the graph of f.

4. Translate 6 units right, shrink vertically by a factor of $\frac{1}{4}$, and translate 2 units up to obtain the graph of g.

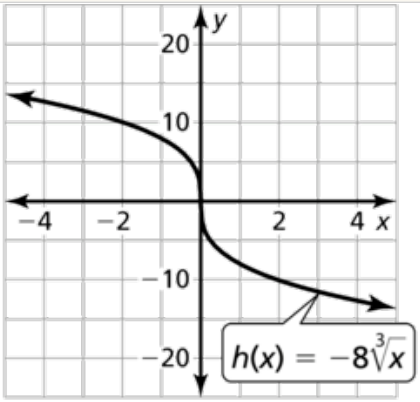


5.



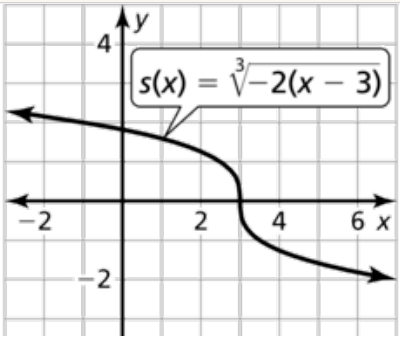
The graph of g is a translation 4 units up of the graph of f.

6.



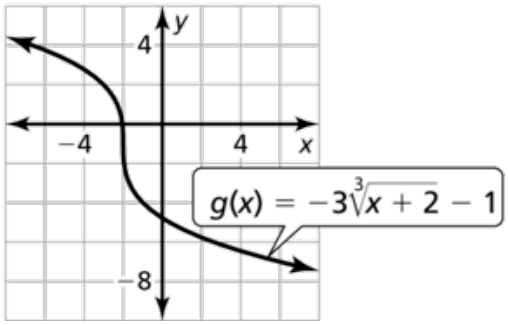
The graph of h is a vertical stretch by a factor of 8 and a reflection in the x-axis of the graph of f.

7.



The graph of s is a reflection in the y-axis, a translation 3 units right, and a horizontal shrink by a factor of $\frac{1}{2}$ of the graph of f.

8. Stretch vertically by a factor of 3, reflect in the x-axis, translate 2 units left, and translate 1 unit down to obtain the graph of g.



9. The average rate of change of r is about

$0.625 \div \left(\frac{\sqrt[3]{4}}{8}\right) \approx 3.15$ times greater than the average rate of change of p over the interval $x = 0$ to $x = 8$.

10. $x = 100$

11. $x = 28$

12. $x = 9$

13. $x = 4$

14. $x = 14$

15. no solution

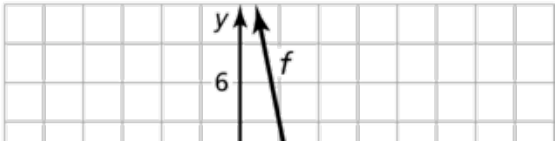
16. $16\pi \approx 50.3$ in.^{3}

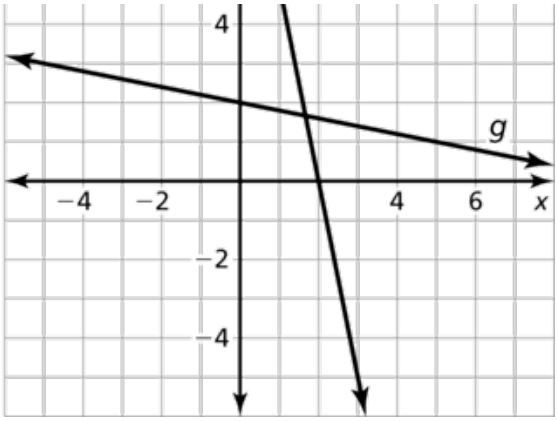
17. $(-10, 1), (-4, 3), (4, 5), (14, 7), (26, 9)$

18.

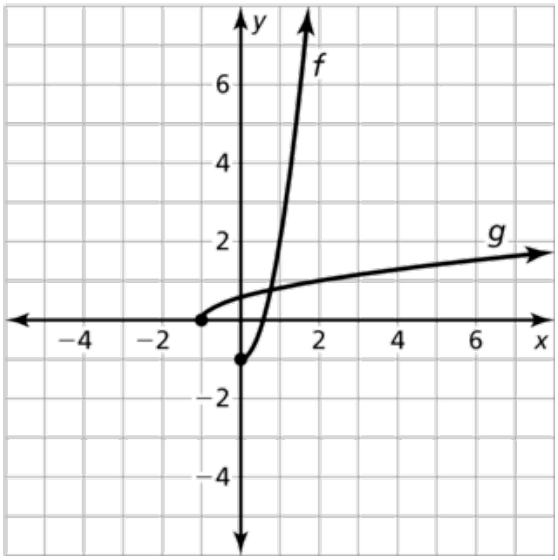
Input	6	3	0	−3	−6
Output	−4	−2	0	2	4

19. $g(x) = \frac{10 - x}{5}$

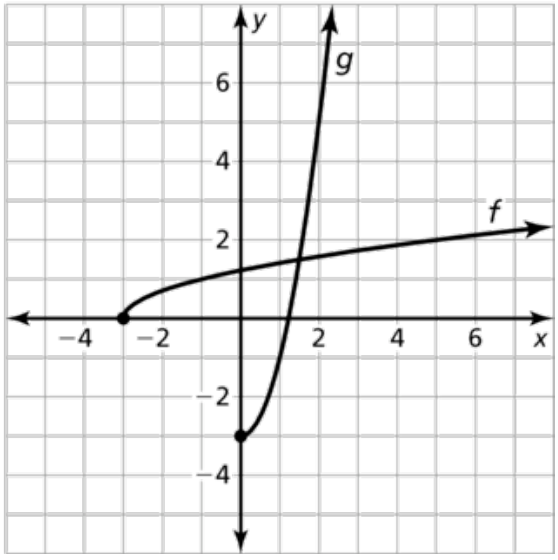




20. $g(x) = \frac{1}{3}\sqrt{3(x + 1)}$



21. $g(x) = 2x^2 - 3, x \geq 0$



22. not a function

23. $a = 210 - 1.25h$; 175