

Find the domain for each problem:

1. $f(x) = \sqrt[4]{1-x^2}$

2. $f(x) = \frac{\sqrt{x}}{x^2-4}$

3. $f(x) = \sqrt{x^2 - 7x + 12}$

Graph each equation:

4. $g(x) = -|x-4| - 2$

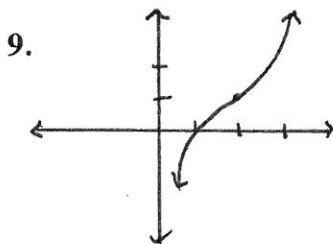
5. $j(x) = -\sqrt{x+1} - 3$

6. $h(x) = -(x+2)^3$

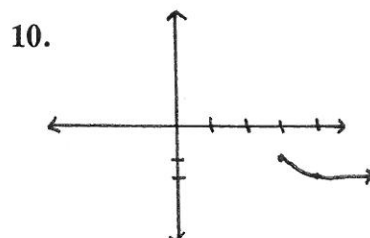
7. $f(x) = \frac{1}{2}x^2$

8. $h(x) = (x-1)^3 + 4$

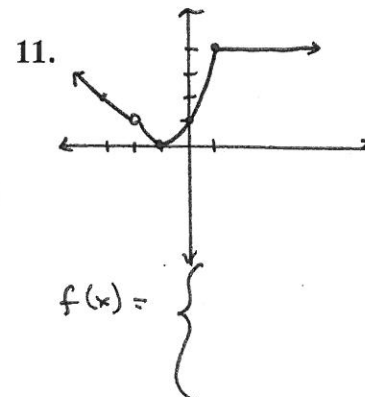
Write the equation of each graph:



$f(x) =$



$f(x) =$



$f(x) =$

Find $f(g(x))$ and then give the domain.

12. $f(x) = \frac{x}{x+5}$ and $g(x) = \frac{6}{x}$

13. $f(x) = x^2 + 1$ and $g(x) = \sqrt{2-x}$

14. Show that $f(x) = \frac{3x-2}{5x-3}$ is its own inverse.

15. Find the area of the donut-shaped region bounded by the graphs of $(x-2)^2 + (y+3)^2 = 25$ and $(x-2)^2 + (y+3)^2 = 36$.

16. Write the equation of the line tangent to the circle $x^2 + y^2 = 25$ at the point $(3, -4)$.