Give the domain of each function.

29. $f(x) = x^3 - 2$

30. $g(x) = \dfrac{2}{x+3}$

31. $h(x) = \dfrac{2}{x^2+3}$

32. $F(x) = \sqrt{2x-1}$

33. $f(x) = \dfrac{1}{x^2+5x+6}$

34. $G(x) = \dfrac{2}{(x-1)(x+2)}$

Let $f(x) = x^2 - 1$ and $g(x) = 1 - 2x$. Find the indicated values.

35. $f(g(1))$ and $g(f(1))$

36. $f(g(-1))$ and $g(f(-1))$

37. $f(g(2))$ and $g(f(2))$

38. $f(g(-2))$ and $g(f(-2))$

39. $f(f(2))$ and $f(2f(1))$

40. $g(g(2))$ and $g(2g(1))$

41. $f\left(\dfrac{1}{g(3)}\right)$

42. $g\left(\dfrac{1}{f(3)}\right)$

43. $g(a+1) - g(a)$