Successive Transformations

For each of the following of questions, give full details of the successive transformations that map the graph of $y = f(x)$ on to the graph of $y = g(x)$.

1. $f(x) = \sin x$, $g(x) = \sin(2x - 60)$

2. $f(x) = \sqrt{x}$, $g(x) = \sqrt{3x - 2}$

3. $f(x) = \frac{1}{x}$, $g(x) = \frac{1}{2x + 1}$

4. $f(x) = \sin x$, $g(x) = 3\sin(x + 20)$

5. $f(x) = \frac{1}{x}$, $g(x) = \frac{3}{x + 5}$

6. $f(x) = \cos x$, $g(x) = 2 + 3\cos x$

7. $f(x) = \sqrt{x}$, $g(x) = 2(1 + \sqrt{x - 3})$

8. $f(x) = \frac{1}{x}$, $g(x) = 2 - \frac{1}{x - 3}$

9. $f(x) = \frac{1}{x}$, $g(x) = \frac{x + 4}{x + 2}$

10. $f(x) = \frac{1}{x}$, $g(x) = \frac{x - 2}{x - 1}$

11. $f(x) = x^2$, $g(x) = (2x - 1)^2$

12. $f(x) = x^2$, $g(x) = 2x^2 - 1$

13. $f(x) = x^3$, $g(x) = 1 - (3x - 2)^3$

14. $f(x) = \frac{1}{x^2}$, $g(x) = \frac{2}{(3x-1)^2}$

15. $f(x) = \frac{1}{x^2}$, $g(x) = 2 - \frac{3}{x^2}$