Algebra 2B Review 7.1-7.6

Simplify.

1. $20^{\frac{1}{2}} \cdot 20^{\frac{1}{2}}$
2. $7^{\frac{1}{2}} \cdot 7^{\frac{1}{2}}$
3. $8^{\frac{4}{3}}$
4. $8^{\frac{2}{3}}$
5. Write $(27a^{-6})^{-\frac{2}{3}}$ in simplest form.
6. Write $(8a^{-3})^{-\frac{2}{3}}$ in simplest form.
7. Write the exponential expression $4x^{\frac{2}{3}}$ in radical form.
8. Write the exponential expression $9x^{\frac{3}{2}}$ in radical form.

Solve the equation.

9. $\sqrt{x+9} + 6 = 8$
10. $\sqrt{x+8} - 3 = 7$
11. $(x+3)^{\frac{2}{3}} = 9$
12. $(x-10)^{\frac{2}{5}} = 4$
13. $(8x-5)^{\frac{1}{2}} = (7-9x)^{\frac{1}{2}}$
14. $(2x+9)^{\frac{1}{5}} = (-7-5x)^{\frac{1}{5}}$
15. Let $f(x) = 4x + 7$ and $g(x) = -3x + 2$. Find $f(x) + g(x)$.
16. Let $f(x) = -6x - 4$ and $g(x) = -2x - 7$. Find $f(x) + g(x)$.
17. Let $f(x) = 6x - 5$ and $g(x) = 4x + 7$. Find $f \cdot g$ and its domain.
18. Let $f(x) = -4x + 2$ and $g(x) = 7x - 3$. Find $f \cdot g$ and its domai
19. Let $f(x) = 3x + 2$ and $g(x) = 4x + 5$. Find $(f \circ g)(3)$.
20. Let $f(x) = 4x - 5$ and $g(x) = 3x - 2$. Find $(f \circ g)(-2)$.