7. $(f + g)(x) = 18x + 3$

8. $(f - g)(x) = 12x + 3$

9. $(f \cdot g)(x) = 45x^2 + 9x$

10. $\left(\frac{f}{g}\right)(x) = 5 + \frac{1}{x}$

11. addition

12. Group like terms and then simplify.

13. The classmate added the functions instead of multiplying the functions; the solution is $(f \cdot g)(x) = 18 \cdot 2^{2x}$.

15. $(A - B)(x) = 200 \cdot 5^x - 140{,}075x + 79{,}000$; 3625

17. $(f + g)(x) = 2^x + 16x - 23$

18. $(f - g)(x) = 17 \cdot 2^x + 16x + 11$

19. $(f + g)(4) = 57$

20. $(f - g)(1) = 61$

21. $(f \cdot g)(x) = 27x^2 + 9x - 3x \cdot 6^x$

22. $\left(\frac{f}{g}\right)(x) = 3 + \frac{1}{x} - \frac{6^x}{3x}$

23. $(f \cdot g)(3) = -1674$

24. $\left(\frac{f}{g}\right)(4) = -104.75$