Advanced Exponent Problem Set 1

Simplify each problem to a single number or fraction (in simplest form).

1. $2^3 + 5^2 - 4^2$

2. $\left(\frac{1}{2}\right)^3 + \left(\frac{3}{4}\right)^2 - \left(\frac{5}{6}\right)^2$

3. $\left(\frac{3}{4}\right)^{-2} + \left(\frac{2}{5}\right)^{-3} - \left(\frac{5}{6}\right)^{-2}$

4. $4^2 - \left(\frac{3}{5}\right)^3 + 2^4$

5. $\left(\frac{5}{6}\right)^{-3} - \left(\frac{1}{2}\right)^{-2} + \left(\frac{3}{4}\right)^{-2}$

6. $\left(\frac{3}{5}\right)^2 + 4^3 - \left(\frac{2}{3}\right)^3$

7. $2^4 - \left(\frac{3}{4}\right)^2 + \left(\frac{5}{6}\right)^3$

8. $\left(\frac{1}{2}\right)^3 + \left(\frac{3}{5}\right)^2 - \left(\frac{4}{7}\right)^2$

9. $\left(\frac{3}{4}\right)^{-2} + \left(\frac{2}{3}\right)^{-3} - \left(\frac{5}{6}\right)^{-2}$

10. $4^2 - \left(\frac{3}{5}\right)^3 + 2^4$

11. $\left(\frac{5}{6}\right)^{-3} - \left(\frac{1}{2}\right)^{-2} + \left(\frac{3}{4}\right)^{-2}$

12. $\left(\frac{3}{5}\right)^{2} + 4^3 - \left(\frac{2}{3}\right)^{3}$

13. $2^4 - \left(\frac{3}{4}\right)^{2} + \left(\frac{5}{6}\right)^{3}$

14. $\left(\frac{1}{2}\right)^{3} + \left(\frac{3}{5}\right)^{2} - \left(\frac{4}{7}\right)^{2}$

15. $\left(\frac{3}{4}\right)^{-2} + \left(\frac{2}{3}\right)^{-3} - \left(\frac{5}{6}\right)^{-2}$

16. $4^2 - \left(\frac{3}{5}\right)^{3} + 2^4$

17. $\left(\frac{5}{6}\right)^{-3} - \left(\frac{1}{2}\right)^{-2} + \left(\frac{3}{4}\right)^{-2}$

18. $\left(\frac{3}{5}\right)^{2} + 4^3 - \left(\frac{2}{3}\right)^{3}$

19. $2^4 - \left(\frac{3}{4}\right)^{2} + \left(\frac{5}{6}\right)^{3}$

20. $\left(\frac{1}{2}\right)^{3} + \left(\frac{3}{5}\right)^{2} - \left(\frac{4}{7}\right)^{2}$