1. What are the degree and leading coefficient of the polynomial?
   \[ 5w + 8w^4 + 20w^2 - 18 \]

2. Simplify:
   \[ (3x^2 + 6) + (x^2 - 7x - 5) \]

3. Simplify:
   \[ (-2y^2 + 3y - 5) - (7y^2 + 4y + 6) \]

4. Use the distributive property to remove the parentheses.
   \[ 4b^9(10b^7 + 3b + 4) \]

5. Use the distributive property to remove the parentheses.
   \[ -4u^4(7u^3 - 8u^2 + 9u) \]

6. Use the distributive property to remove the parentheses.
   \[ -9wx^6(2x^5 - 6w^2 + 5) \]

7. Multiply and simplify your answer.
   \[ (u - 4)(u + 2) \]

8. Multiply and simplify your answer.
   \[ (5b + 3)(7b + 5) \]

9. Multiply and simplify your answer.
   \[ (5x - 1)(8x - 3) \]

10. Multiply and simplify your answer.
    \[ (4a + 5b)(6a - 7b) \]

11. Multiply and simplify your answer.
    \[ (10 + u)(10 - u) \]

12. Multiply and simplify your answer.
    \[ (5y + 4z)(5y - 4z) \]

13. Square and simplify your answer.
    \[ (3 + 4w)^2 \]

14. Square and simplify your answer.
    \[ (7u - 5)^2 \]
15. Square and simplify your answer. 
\[(2x^2 - 5)^2\]

16. Square and simplify your answer. 
\[(5u - y)^2\]

17. Multiply and simplify your answer. 
\[(-7b + 4)(-3b - 2)\]

18. Multiply and simplify your answer. 
\[(3w^2 - 5w - 4)(6w + 7)\]

19. Multiply and simplify your answer. 
\[(3y^2 - 7y + 6)(5y^2 - 4y - 4)\]

20. Divide and simplify your answer. 
\[
\frac{8v^7 - 28v^6 + 32v^4}{4v^3}
\]

21. Divide and simplify your answer. 
\[
\frac{6v^3 + 18v^2 - 12v}{-2v}
\]

22. Divide. Your answer should give the quotient and remainder. 
\[(15x^2 + 56x + 49) \div (3x + 7)\]

23. Divide. Your answer should give the quotient and remainder. 
\[(4x^2 - 31x + 37) \div (x - 6)\]

24. Factor completely. 
\[14 - 8x\]

25. Factor completely. 
\[z^2 + 13z + 22\]

26. Factor completely. 
\[x^2 + 5x - 6\]

27. Factor completely. 
\[x^2 - 10x + 16\]

28. Factor completely. 
\[4w^2 + 44w + 72\]

29. Factor completely. 
\[5w^2 - 5w - 100\]