

Write each polynomial in standard form. Then give the leading coefficient.

14. $4x - 6x^3 + 23$

$-6x^3 + 4x + 23$
Coeff: $\boxed{-6}$

Find the degree of each polynomial.

15. $7y + y^4 + 2y^2 + 1$

$y^4 + 2y^2 + 7y + 1$
Coeff: $\boxed{1}$

16. $4x^2 - x^5 - x^3 + 1$

$-x^5 - x^3 + 4x^2 + 1$
Coeff: $\boxed{-1}$

17. $y + 12$

One

18. $4^2x^3 + 6$

Three

19. xy^{10}

Eleven

20. $2ab^4c$

Six

21. $x^2 + 5x + 4$

Two

22. 57

zero

Classify each polynomial according to its degree and number of terms.

23. $m^2 + 1 - 5m + m^4$

~~Fourth Degree Quadrinomial~~
4th Degree Polynomial

24. $x - 11$

Linear Binomial

25. $k^2 + 2k - 1$

Quadratic Trinomial

26. $p^3 + 2p$

Cubic Binomial

27. $5w^5 + w^4 + 3w + 5$

5th Degree Polynomial

28. 33

Constant

Simplify. Write all exponents as positive numbers.

29. $(x)(x)(x^7)$

x^9

30. $(n^4)^5$

n^{20}

31. d^0

1

32. $(5m^2)^3$

$125m^6$

33. $-(3x)(x^3)(4x^6)$

$-12x^{10}$

34. $(p^{-2})(p^4)(p^5)^2$

p^{10}
 p^{12}

35. $\frac{y^3}{y^2}$

y

36. $\frac{m^5y^{-3}}{my^8}$

$\frac{m^4}{y^{11}}$

37. $\left(\frac{2x}{y^5}\right)^{-3}$

$\frac{y^{15}}{8x^3}$

$\frac{2^{-3} \cdot x^{-3}}{y^{-15}}$

38. $\frac{x^{12}z^{-2}}{x^2zk^{-11}}$

$\frac{x^{10}k^{11}}{z^3}$

39. $\frac{(5x^2)^3}{5x^4} = \frac{125x^6}{5x^4}$

$25x^2$

40. $\frac{(xb^2)^0}{xy}$

$\frac{1}{xy}$