Adding and Subtracting Polynomials

1. Determine the coefficient and degree of each monomial
(Similar to p.329 #26)

$$7x^5$$

2. Determine the coefficient and degree of each monomial
(Similar to p.329 #28)

$$-x^2y^4$$

3. State why each of the following is not a polynomial
(Similar to p.329 #34)

$$3x^{-4}-x+2$$

4. State why each of the following is not a polynomial
(Similar to p.329 #36)

$$\frac{x^5-3}{x}$$

5. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #38)

$$4x^3-7x+2$$

6. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #40)

$$\frac{3}{x^2}$$

7. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #42)

$$7x - x^{\frac{1}{2}}$$

8. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #44)

$$5$$

9. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #46)

$$2 + 3x + 4x^3 - x^2$$

10. Determine whether the algebraic expression is a polynomial (Yes or No). If it is a polynomial, write the polynomial in standard form, determine the degree, and state if it is a monomial, binomial, or trinomial. If it is a polynomial with more than 3 terms, identify the expression as a polynomial.
(Similar to p.329 #46)

$$x + x^{-5}$$

11. Simplify each polynomial by adding or subtracting, as indicated. Express your answer as a single polynomial in standard form.
(Similar to p.329 #56)

$$(x^2 - 5x + 2) + (7x^2 - 8x + 3)$$

12. Simplify each polynomial by adding or subtracting, as indicated. Express your answer as a single polynomial in standard form.
(Similar to p.329 #62)

$$(x^2y^3 - 2xy + 11) - (-4x^2y^3 - 6xy + 4)$$

13. Simplify each polynomial by adding or subtracting, as indicated. Express your answer as a single polynomial in standard form.
(Similar to p.329 #68)

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