

Math 9 Lesson 2: Polynomials

- Operations with polynomials with degree less than or equal to 2
- Variables, degree, number of terms, and coefficients, including the constant term
- $(x^2 + 2x - 4) + (2x^2 - 3x - 4)$
- $(5x - 7) - (2x + 3)$
- $2x(x + 7)$
- $(15k^2 - 10k) \div (5k)$
- Using algebra tiles
- $3x(x - 4) = 3x^2 - 12x$

1. $3a + 5a$

2. $x + 2x$

3. $5x - 7x$

4. $3x^2 - 2x^2 + x + 9x$

5. $2x(x - 5)$

6. $(3x - 2) - (5x + 1)$

7. $-2(3x^2 - 5x + 1)$

8. $3x(2 - 3x + 4x^2)$

9. $(x^2 + 3x - 2) - (2x^2 - 5x - 7)$

10. $(15k^2 - 10k) \div 5k$

11. $\frac{4x^2}{2x}$

12. $\frac{3}{4}x + \frac{x}{4}$

13. $\frac{x}{2} - \frac{x}{5}$

14. $\frac{3x}{2} - \frac{x}{7}$

15. $\frac{2t}{5} - 3t$

16. $\frac{-15xy^3 - 10x^2y^2}{5xy^2}$

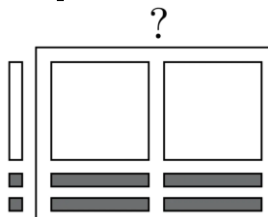
17. $-\frac{4a^2b - 8ab^3}{2ab}$

18. $x^3 - 2x^2 + 3x - (x^3 + x^2 - 5x)$

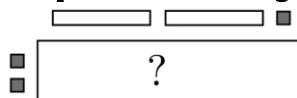
19. $-2(2a^3 + 4a^2) + a - (3a^2 - 4a^3)$

20. $\frac{1}{2}(4x^2 - 8x + 12) - \frac{2}{3}(6x^2 + 12x - 3)$

21. Complete the following algebra tile diagram:



22. Complete the following algebra tile diagram:



23. The polynomial $P(x) = 6x^5 + 5x^4 - 3x^2 + x^7 + 2$

a. How many terms are in this polynomial?

b. What is the coefficient of the x^5 term?

c. Find the degree of this polynomial

d. Find the constant term

24. What is the degree of the following polynomial? $5x^3y^2 + 3x - 2$