Math 9 Assignment 2: Polynomials

Name: _____

1. $10p + 4p$
   $14p$

2. $w + 3w$
   $4w$

3. $4z - 7z$
   $-3z$

4. $3a^2 - 5a + a^2 + 8a$
   $4a^2 + 3a$

5. $3x(x - 7)$
   $3x^2 - 21x$

6. $(2x - 5) - (4x + 3)$
   $-2x - 8$

7. $-3(4x^2 + 3x - 3)$
   $-12x^2 - 9x + 9$

8. $2x(1 - 5x - 8x^2)$
   $-16x^3 - 10x^2 + 2x$

9. $(x^2 - 2x - 1) - (3x^2 - 4x + 2)$
   $-2x^2 + 2x - 3$

10. $(16e^2 - 8e) \div -4e$
    $\frac{16e^2 - 8e}{-4e} = \frac{16e^2}{-4e} + \frac{-8e}{-4e}$
    $-4e + 2$

11. $\frac{15x^3}{10x}$
    $\frac{3}{2}x^2$

12. $\frac{2}{3}x + \frac{x}{5}$
    $\frac{13}{15}x$

13. $\frac{x}{3} - \frac{x}{4}$
    $\frac{4x}{12} - \frac{3x}{12}$
    $\frac{x}{12}$

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14. $\dfrac{5x}{2} - \dfrac{x}{3}$

$\dfrac{13}{6}x$

15. $\dfrac{3a}{4} - 3a$

$-\dfrac{9}{4}a$

16. $\dfrac{8xy^3 + 10x^3y^4}{6xy^2}$

$\dfrac{4}{3}y + \dfrac{5}{3}x^2y^2$ or $\dfrac{4y + 5x^2y^2}{3}$

17. $-\dfrac{6a^3b - 8a^2b^2}{2ab}$

$-3a^2 + 4ab$

18. $2x^3 + 3x - 4x^2 - (x^2 + 3x - 5x^3)$

$7x^3 - 5x^2$

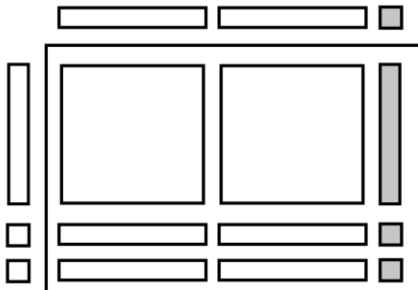19. $-3(3a^3 + 5a^2) + a^2 - (2a^2 - 4a^3)$

$-9a^3 - 15a^2 + a^2 - 2a^2 + 4a^3$

$-5a^3 - 16a^2$

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

$3x^2 - 4x - 6 - 9x^2 - 18x + 6$

$-6x^2 - 22x$

21. Represent $(2x - 1)(x + 2)$ with algebra tiles.

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

    a. How many terms are in this polynomial?

       4

    b. What is the coefficient of the x^2 term?

       -7

    c. Find the degree of this polynomial

       6

    d. Find the constant term

       5

23. What is the degree of the following polynomial?

$$5x^3y^2 + 3xy^3 + 2x^3y^3z - 100$$

7