NAME: ____________________ PERIOD: ____________________ DATE: ______________

Homework Problem Set

Find each sum or difference.

1. $(3x - 4) + (5x - 7)$

$\boxed{8x-11}$

2. $(6x^2 - 1) - (2x^2 + 8)$

$6x^2-1-2x^2-8$

$\boxed{4x^2-9}$

3. $(12x - 9) - (7x + 3) + 2(6x - 1)$

$12x-9-7x-3+12x-2$

$\boxed{17x-14}$

4. $(4x^2 + x + 7) + (2x^2 + 3x + 1)$

$4x^2+x+7+2x^2+3x+1$

$\boxed{6x^2+4x+8}$

5. $(3x^3 - x^2 + 8) - (x^3 + 5x^2 + 4x - 7)$

$3x^3-x^2+8-x^3-5x^2-4x+7$

$\boxed{2x^3-6x^2-4x+15}$

6. $3(x^3 + 8x) - 2(x^3 + 12)$

$3x^3+24x-2x^3-24$

$\boxed{x^3+24x-24}$

7. $(5 - t - t^2) + (9t + t^2)$

$\boxed{8t+5}$

8. $(3p + 1) + 6(p - 8) - (p + 2)$

$\boxed{8p-49}$

9. $(2p + 4) + 5(p - 1) - (p + 7)$

$\boxed{6p-8}$

10. $(6 - t - t^4) + (9t + t^4)$

$\boxed{8t+6}$

11. $(7x^4 + 9x) - 2(x^4 + 13)$

$7x^4 + 9x - 2x^4 - 26$

$\boxed{5x^4 + 9x - 26}$

12. $(5 - t^2) + 6(t^2 - 8) - (t^2 + 12)$

$\boxed{4t^2 - 55}$

13. $(8x^3 + 5x) - 3(x^3 + 2)$

$\boxed{5x^3 + 5x - 6}$

14. $(12x + 1) + 2(x - 4) - (x - 15)$

$\boxed{13x + 8}$

15. $(13x^2 + 5x) - 2(x^2 + 1)$

$\boxed{11x^2 + 5x - 2}$

16. $(9 - t - t^2) - \frac{3}{2}(8t + 2t^2)$

$\boxed{-4t - 13t + 9}$

17. $(4m + 6) - 12(m - 3) + (m + 2)$

$\boxed{-7m + 44}$

18. $(15x^4 + 10x) - 12(x^4 + 4x)$

$\boxed{3x^4 - 38x}$

19. **Challenge** Celina says that each of the following expressions is actually a 2-term expression (called a ***binomial***) in disguise. For example, she sees that the expression in (i) is algebraically equivalent to $11abc - 2a^2$, which is indeed a 2-term expression. Is she right about the remaining two expressions? Explain your thinking.

i. $5abc - 2a^2 + 6abc = 11abc - 2a^2$

$\boxed{11abc - 2a}$

ii. $5x^3 \cdot 2x^2 - 10x^4 + 3x^5 + 3x \cdot (-2)x^4$

$10x^5 - 10x^4 + 3x^5 + -6x^5 = \boxed{7x^5 - 10x^4}$

iii. $5(a - 1) - 10(a - 1) + 100(a - 1)$

$5a - 5 - 10a + 10 + 100a - 100$

$\boxed{95a - 95}$

yes, all can be represented as binomial expressions.