adding like terms
start w/ highest degree polynomial

Algebra 1   Name_____ ID: 1
Add/Subtract Polynomial Practice   Date_____ Period_____

Simplify each sum.

1) $2 + 8x + 4 - 8x$

   6

   $2 + 4 = 6 \qquad 8x - 8x = 0$

   $\boxed{6}$

2) $3 + 7x + 5 + 5x$

   $12x + 8$

   $3 + 5 = 8 \qquad 7x + 5x = 12x$

   $\boxed{12x + 8}$

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

   $3x^3 + 9x^2$

   $5x^3 - 2x^3 = 3x^3$
   $7x^2 + 2x^2 = 9x^2$

   $\boxed{3x^3 + 9x^2}$

4) $8 + 3x^3 + 5 - 8x^3$

   $-5x^3 + 13$

   $-8x^3 + 3x^3 + 8 + 5$

   $\boxed{-5x^3 + 13}$

What's the operation

5) $(5x^4 - 4x^3) + (x^4 - 4x^3)$

   $6x^4 - 8x^3$

   $5x^4 + x^4 - 4x^3 - 4x^3$

   $\downarrow$

   $\boxed{6x^4 - 8x^3}$

6) $(3m^4 + 7) + (2 - 5m^4)$

   $-2m^4 + 9$

   $-5m^4 + 3m^4 + 7 + 2$

   $\boxed{-2m^4 + 9}$

Made with Infinite Algebra 1.

7) $(n^3 + 5n) - (6n^2 - 2n)$

$n^3 + 6n^2 + 3n$

$n^3 + 6n^2 + 5n - 2n$

$\boxed{n^3 + 6n^2 + 3n}$

8) $(3 - 5a^3) + (6 - 5a^3)$

$-10a^3 + 9$

$-5a^3 - 5a^3 + 3 + 6$

$\boxed{-10a^3 + 9}$

9) $(6 + 5n^3) + (1 - n^4 - 7n^3)$

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

$-n^4 - 7n^3 + 5n^3 + 6 + 1$

$\boxed{-n^4 - 2n^3 + 7}$

10) $(7r^3 - 4) + (6 + 7r + 2r^3)$

$9r^3 + 7r + 2$

$7r^3 + 2r^3 + 7r - 4 + 6$

$\boxed{9r^3 + 7r + 2}$

11) $(2v + 5v^4) + (2v^4 - v^3 - 2v)$

$7v^4 - v^3$

$5v^4 + 2v^4 - v^3 + 2v - 2v$

$\boxed{7v^4 - v^3}$

12) $(7n^2 - 3) + (6n^2 - 3 + n^4)$

$n^4 + 13n^2 - 6$

$n^4 + 7n^3 + 6n^2 - 3 - 3$

$\boxed{n^4 + 13n^2 - 6}$

Simplify each difference. Distribute negative

13) $(7m^3 + 4m^2) - (4m^4 + 8m^2)$

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

$-4m^4 + 7m^3 - 8m^2 + 4m^2$

$\boxed{-4m^4 + 7m^3 - 4m^2}$

14) $(r^2 - 8r^3) - (8r^2 - 3r^3)$

$-5r^3 - 7r^2$

$-8r^3 + 3r^3 - 8r^2 + r^2$

$\boxed{-5r^3 - 7r^2}$

15) $\left(r^2 + 7r^4\right) - \left(4r^2 - 7r^4\right)$

$14r^4 - 3r^2$

$-7r^4 + 7r^4 - 4r^2 + r^2$

$$\boxed{14r^4 - 3r^2}$$

16) $\left(5n^3 + 2n^2\right) - \left(8n^3 + 8n^2\right)$

$-3n^3 - 6n^2$

$-8n^3 + 5n^3 - 8n^2 + 2n^2$

$$\boxed{-3n^3 - 6n^2}$$

17) $\left(8k^2 - 8\right) - \left(4 - 7k - 2k^2\right)$

$10k^2 + 7k - 12$

$8k^2 + 2k^2 + 7k - 8 - 4$

$$\boxed{10k^2 + 7k - 12}$$

18) $\left(5 - 2k^2\right) - \left(6 - k^2 - 8k^3\right)$

$8k^3 - k^2 - 1$

$8k^3 - 2k^2 + k^2 \; 5 - 6$

$$\boxed{8k^3 - k^2 - 1}$$

19) $\left(2 + 3b^3\right) - \left(4 + 3b^4 - b^3\right)$

$-3b^4 + 4b^3 - 2$

$-3b^4 + 3b^3 + b^3 - 4 + 2$

$$\boxed{-3b^4 + 4b^3 - 2}$$

20) $\left(6x^2 + 3x^3\right) - \left(6x^2 + 6x^4 + 6x^3\right)$

$-6x^4 - 3x^3$

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

$$\boxed{-6x^4 - 3x^3}$$

H.W

Simplify each expression.

21) $\left(5p^2 - 5p^3\right) + \left(4p^2 - 2p^4 - 8p^3\right)$

$-2p^4 - 13p^3 + 9p^2$

$-2p^4 - 5p^3 - 8p^3 + 5p^2 + 4p^2$

$$\boxed{-2p^4 - 13p^3 + 9p^2}$$

22) $\left(6 - 7k^3\right) + \left(4k - 3k^3 - 6\right)$

$-10k^3 + 4k$

$-7k^3 - 3k^3 + 4k \; 6 - 6$

$$\boxed{-10k^3 + 4k}$$

23) $(6r^2 - 3r^3) - (4r^3 + 4r^2 - 6)$

$-7r^3 + 2r^2 + 6$

$-3r^3 - 4r^3 + 6r^2 - 4r^2 + 6$

$$\boxed{-7r^3 + 2r^2 + 6}$$

24) $(2x^2 - 3x^4) + (6x - x^4 + 2x^2)$

$-4x^4 + 4x^2 + 6x$

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

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

25) $(7k^4 + 8k) - (5k^4 + 7k - 3k^2)$

$2k^4 + 3k^2 + k$

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

$$\boxed{2k^4 + 3k^2 + k}$$

26) $(7 - 4x^4) - (2x^4 - 3x - 1)$

$-6x^4 + 3x + 8$

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

$$\boxed{-6x^4 + 3x + 8}$$

27) $(8k^4 + 8) + (5 + 6k^4 + 2k^2)$

$14k^4 + 2k^2 + 13$

$8k^4 + 6k^4 + 2k^2 + 8 + 5$

$$\boxed{14k^4 + 2k^2 + 13}$$

28) $(5m^4 - 3m) - (2m^4 - 8m^2 + 7m)$

$3m^4 + 8m^2 - 10m$

$5m^4 - 2m^4 + 8m^2 - 10m$

$$\boxed{3m^4 + 8m^2 - 10m}$$