

Honors Math 3

Simplifying Polynomials

WS (HW after test 1)

$$\textcircled{1} 2m - (-m^2 - 5m)$$

$$2m + m^2 + 5m$$

$$m^2 + 7m$$

$$\textcircled{2} (x^3 + 3x^2) - (-x^2 + x)$$

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

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

$$\textcircled{3} \left(\frac{3}{4}m^2 + \frac{2}{3}m + \frac{1}{9} \right) - \left(\frac{1}{8}m^2 + \frac{1}{3}m + \frac{4}{9} \right)$$

$$\frac{3}{4}m^2 + \frac{2}{3}m + \frac{1}{9} - \frac{1}{8}m^2 - \frac{1}{3}m - \frac{4}{9}$$

$$\frac{5}{8}m^2 + \frac{1}{3}m - \frac{3}{9}$$

$$\frac{5}{8}m^2 + \frac{1}{3}m - \frac{1}{3}$$

$$\textcircled{5} 5m^3(3m^2 - 4m)$$

$$15m^5 - 20m^4$$

$$\textcircled{4} \frac{2}{3}c^2(3c - \frac{9}{5}c^2 - 7)$$

$$2c^3 - \frac{18}{15}c^4 - \frac{14}{3}c^2$$

$$2c^3 - \frac{6}{5}c^4 - \frac{14}{3}c^2$$

$$\textcircled{6} \frac{8r}{3} \left(9r^3 - \frac{3r^2}{2} + \frac{5}{8} \right)$$

$$\frac{72r^4}{3} - \frac{24r^3}{6} + \frac{40r}{24}$$

$$24r^4 - 4r^3 + \frac{5r}{3}$$

$$\textcircled{7} (7x^2 - 3)(2x - 4)$$

$$14x^3 - 28x^2 - 6x + 12$$

$$\textcircled{8} (c^5 + 9)(3c^5 + 4)$$

$$3c^{10} + 4c^5 + 27c^5 + 36$$

$$3c^{10} + 31c^5 + 36$$

$$\textcircled{9} (11 - x^6)^2$$

$$(11 - x^6)(11 - x^6)$$

$$121 - 11x^6 - 11x^6 + x^{12}$$

$$121 - 22x^6 + x^{12}$$

$$\textcircled{10} (10a^2 + 3)(10a^2 - 3)$$

$$100a^4 - 30a^2 + 30a^2 - 9$$

$$100a^4 - 9$$

$$(11) (k^2 - 4k + 6)(3k - 5)$$

$$3k^3 - 5k^2 - 12k^2 + 20k + 18k - 30$$

$$3k^3 - 17k^2 + 38k - 30$$

$$(13) (2u + 7)^2$$

$$(2u + 7)(2u + 7)$$

$$4u^2 + 14u + 14u + 49$$

$$4u^2 + 28u + 49$$

$$(14) (4a + b)^2$$

$$(4a + b)(4a + b)$$

$$16a^2 + 4ab + 4ab + b^2$$

$$16a^2 + 8ab + b^2$$

$$(16) X^a (X^a - X) \text{ * add the exponents}$$

$$X^{2a} - X^{a+1}$$

$$(18) m^{3p} (m^p - m^3 + 3)$$

$$m^{4p} - m^{3p+3} + 3m^{3p}$$

$$(20) a^{n-2} (a^{n+2} + a^{2n} + a^2)$$

$$a^{2n} + a^{3n-2} + a^h$$

$$(12) (3h^2 - 1)^2 (2 - h)$$

$$(3h^2 - 1)(3h^2 - 1)(2 - h)$$

$$(9h^4 - 3h^2 - 3h^2 + 1)(2 - h)$$

$$(9h^4 - 6h^2 + 1)(2 - h)$$

$$18h^4 - 9h^5 - 12h^2 + 6h^3 + 2 - h$$

$$-9h^5 + 18h^4 + 6h^3 - 12h^2 - h + 2$$

$$(15) (n + 8p)^2$$

$$(n + 8p)(n + 8p)$$

$$n^2 + 8np + 8np + 64p^2$$

$$n^2 + 16np + 64p^2$$

$$(17) y^x (y^{2x} + y^2)$$

$$y^{3x} + y^{x+2}$$

$$(19) y^{m-1} (y^{2m} + y^2 - y)$$

$$y^{3m-1} + y^{m+1} - y^m$$