Day 6 Easy 1,3,4,6,7

1) $40 - 9x^2$ gal $x = -3$

$40 - 9\cdot(-3)^2 =$

$40 - 81 = -41$

2) $x^2 - 3xm - m + 4$ | $x = 2$, $m = 3$

$2^2 - 3\cdot 2\cdot 3 - 3 + 4 =$

$= 4 - 18 - 3 + 4 = -13$

3) $t^4 - t^3 - 4t + 18 =$ | $t = 2$

$= t^2(t^2 - t) - 4t + 18 =$

$= 2^2(2^2 - 2) - 4\cdot 2 + 18 =$

$= 4(4 - 2) - 8 + 18 =$

$= 16 - 8 - 8 + 18 = 18$

4) $9(x - 2y) =$ | $x = 3$, $y = -2$

$9(3 - 2\cdot(-2)) =$

$= 9(3 + 4) = 9\cdot 7 = 63$

5) $x(x + 5) =$

$= x^2 + 5x$

6) $(x - 7)x =$

$x^2 - 7x$

7) $\frac{8x^2y}{4xy} = \frac{2x\cdot 4x\cdot y}{4xy} = 2x$

Medium 2,6,14,16

1) $|a| - (-b) = |a| + b$ | $a = -2$ $b = 3$

$|-2| + 3 = 5$

2) $5x^2 + 16x + 1 - 3x^2 - 8x + 7 =$ | $x = -5$

$= 2x^2 + 8x + 8 = 2\cdot(-5)^2 + 8\cdot(-5) + 8 =$

$= 50 - 40 + 8 = 18$

3) $x^2 + 5x + 8 + 3x^2 + 10x + 1$ | $x = -4$

$4x^2 + 15x + 9 = 4\cdot(-4)^2 + 15\cdot(-4) + 9 =$

$= 64 - 60 + 9 = 13$

4) $5y^2 - 8y + 2 - 3y^2 + 3y + 1 =$ | $y = 3$

$= 2y^2 - 5y + 3 =$

$= 2\cdot(3)^2 - 5\cdot 3 + 3 =$

$= 18 - 15 + 3 = 6$

5) $-5a^2b + 8ab^2 + 2 + 8a^2b - 15ab^2 - 1 =$ | $ab = 10$, $3a - 7b = 2$

$= 3a^2b - 7ab^2 + 1 =$

$= (3a - 7b)\cdot a\cdot b + 1 =$

$= 2\cdot 10 + 1 = 21$

6) $3x^2 - 5x + 2 - (x^2 - 4x + 1)$ | $x = 5$

$3x^2 - 5x + 2 - x^2 + 4x - 1$

$2x^2 - 1x + 1$

$2\cdot 5^2 - 1\cdot 5 + 1$

$50 - 6 = 46$

7) $x^3 - 5x^2 + 8xz + 2 + z^2 - x^3 + 4x^2 - 8xz - z^2$ | $x = 3$

$-x^2 + 2 = -(3^2) + 2 = -9 + 2 = -7$

14) $(2m - 3n)^2 = (2m)^2 - 2\cdot 2m\cdot 3n + (3n)^2 =$

$= 4m^2 - 12mn + 9n^2$

16) $\frac{9xy - 6x^2}{3x} = \frac{9xy}{3x} - \frac{6x^2}{3x} = 3y - 2x$

Hard

$(x + x)(x - x)(x\cdot x) = (x^2 - x^2)\cdot x^2 = 0$