1. Fill in the blanks

	co-efficient	degree	Variable(s)
$-0.5x^2yz^3$	~~5~~ -0.5	6	x, y, z
$5a^4$	5	4	a

2. Fill in the blanks

	Number of terms	Co-efficient(s)	degree	constant
$5 - 2x + 3x^2$	3	$-2, 3$	2	5
$4a + 3b - 7c + 1$	4	~~a, b,~~ $4, 3, -7$	1	1

Simplify the following

3) $4a^2 + 5a - 2 - 8a + a^2 + 6$

$5a^2 - 3a + 4$

4) $3x^2y - 6xy + xy^2 + 5xy + x^2y^2 - yx^2 \quad -x^2y$

$x^2y^2 + 2x^2y - xy + xy^2$

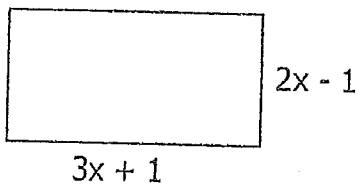5) $(2n - 3) + (n^2 - n + 5) + (-4n^2 + 6n)$

$2n - 3 + n^2 - n + 5 - 4n^2 + 6n$

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

6) $(3x^2 - 5x + 1) - (-4x + 7 - x^2)$
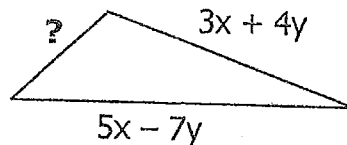
$3x^2 - 5x + 1 + 4x - 7 + x^2$

$4x^2 - x - 6$

7) Find the perimeter of a rectangle below. P = 2L + 2W

2x - 1

3x + 1

$P = 2(3x + 1) + 2(2x - 1)$

$= 6x + 2 + 4x - 2$

$= 10x$

8) Find the length of the missing side, if the perimeter is 10x − 8y

?   3x + 4y

5x − 7y

$(10x - 8y) - (3x + 4y) - (5x - 7y)$

$10x - 8y - 3x - 4y - 5x + 7y$

$2x - 5y$

9) Find the sum of
$(2xy + x - 3)$ and $(4x + xy + 3)$

$(2xy + x - 3) + (4x + xy + 3)$

$2xy + x - 3 + 4x + xy + 3$
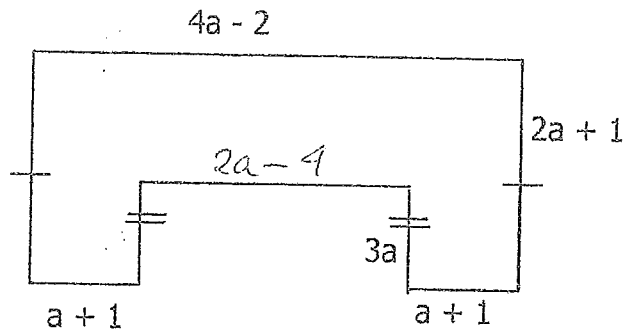
$5x + 3xy$

10) How much greater is 3x - 4 than 2x + 7?

$(3x - 4) - (2x + 7)$

$3x - 4 - 2x - 7$

$x - 11$

11) Find the perimeter

4a - 2

2a + 1

2a − 4

3a

a + 1   a + 1

$P = (4a-2) + 2(2a+1) + 2(a+1)$
$\quad + 2(3a) + (2a-4)$
$= 18a - 2$

Simplify the following completely.

12) $5x(2xy)$

$10x^2y$

13) $(-3a^2)(4ab)$

$-12a^3b$

14) $6x(2x-1)$

$12x^2 - 6x$

15) $(2-3a+a^2)(-5a)$

$-10a + 15a^2 - 5a^3$

16) Find the area of a rectangle with a length of x + 3 and length of 2x

$A = 2x(x+3)$
$\quad = 2x^2 + 6x$

17) $12a^2 \div (-4a)$

$\dfrac{12a^2}{-4a} = -3a$

18) $\dfrac{-25x^2y}{-5xy}$

$5x$

19) $(24a^2 - 16a) \div (8a)$

$\dfrac{24a^2}{8a} - \dfrac{16a}{8a} = 3a - 2$

20) $(-10x^2 + 25x - 5) \div (-5)$

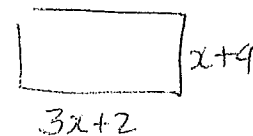$\dfrac{-10x^2}{-5} + \dfrac{25x}{-5} - \dfrac{5}{-5}$

$2x^2 - 5x + 1$

21) A rectangle has an area of $30a^2 - 20a$ and a width of 10a. What is the length?

$30a^2 - 20a = (10a)(\quad)$

$\dfrac{30a^2}{10a} - \dfrac{20a}{10a} = 3a - 2$

22) $(x+2)(x-7)$

$x^2 - 7x + 2x - 14$

$x^2 - 5x - 14$

23) $(2a-5)(a-3)$

$2a^2 - 6a - 5a + 15$

$2a^2 - 11a + 15$

24) Find the area of the rectangle with a length of 3x+2 and a width of x+4

x+4

3x+2

$A = (3x+2)(x+4)$
$\quad = 3x^2 + 12x + 2x + 8$
$\quad = 3x^2 + 14x + 8$