

1) $8m^2 - 12mn$

$$8m^2 - 12mn = \underline{\underline{4m(4m - 3n)}}$$

2) $12m^2n + 22m^3n^2 - 36m^4n^3 + 48m^5n^4$

$$12m^2n(1 + 2mn - 3m^2n^2 + 4m^3n^3)$$

3) $a(x+1) + b(x+1)$

$$a(x+1) + b(x+1) = ax + a + b(x+1) =$$

$$ax + bx + a + b$$

4) $2x(n-7) - 3y(n-7) = (n-7)(2x-3y)$

$$; (n-7)(2x-3y)$$

5) $(a+3)(a+1) - 4(a+1) = a^2 + 4a + 3 - 4(a+1) = a^2 + 4a + 3 - 4a - 4 = (a^2 - 1)$

$$a^2 + 4a + 3 - 4a - 4 = (a^2 - 1)$$

$$6) (a+b-1)(a^2+1) - a^2 - 1 = (a^2+1)(a+b-2)$$

$$a^2+1$$

$$7) (x) + (3) + (x-4) = 76$$

$$5x = 76 + 4$$

$$x = 80/5$$

$$x = 16$$

$$8) a^3(a-b+1) - b^2(a-b+1) = a^3(a-b+1)/(a-b+1) -$$

$$b^2(a-b+1)/(a-b+1) = b^2 =$$

$$a^3(a-b+1) - b^2(a-b+1)$$