Binomial Multiplication

Multiply out each of the following and simplify!

(1) $(3\,x + a)\,(x - 2)$

(10) $(x - 4\,y)^2$

(19) $(a + 12)\,(a - 5)$

(2) $(x + y)\,(2\,x - y)$

(11) $(3\,a - b)\,(2\,a + b)$

(20) $(2\,x - a)^2$

(3) $(4 - x)\,(x + 3)$

(12) $(2 - 4\,x)\,(5 - x)$

(21) $(4 - a)^2$

(4) $(3\,t - 4)\,(t + 1)$

(13) $\left(x^2 + 3\right)\left(x^2 + 1\right)$

(22) $(2\,a - b)\,(2\,a + b)$

(5) $(2 - x)\,(3 - 2\,x)$

(14) $\left(x^2 - 4\right)^2$

(23) $(x + 2)\,(3 - x)$

(6) $(2\,t - 3)^2$

(15) $\left(x^2 + 3\,y^2\right)\left(x^2 + y^2\right)$

(24) $\left(a^3 + 3\right)\left(a^3 + 2\right)$

(7) $(x - 3)\,(x + 2)$

(16) $\left(2\,x^2 + y^2\right)^2$

(25) $(x - 3)\,(x + 1)$

(8) $(2 - 4\,s)\,(3 - s)$

(17) $(x - 3)\,(x + 2)$

(26) $(3 - 2\,x)^2$

(9) $(x + 2)\,(3\,x + 1)$

(18) $(2\,y - 2)\,(y + 4)$

(27) $(2\,a - b)\,(a + b)$