Equating Coefficients in Identities

1	$(2x+3)(x-5)+7 \equiv ax^2+bx+c$	$a =$ $b =$ $c =$
2	$(x+1)(x+4)(x-1) \equiv x^3+ax^2+bx+c$	$a =$ $b =$ $c =$
3	$2x^2+12x-9 \equiv a(x+b)^2+c$	$a =$ $b =$ $c =$
4	$(ax+1)(x+c)+b \equiv 5x^2+11x+8$	$a =$ $b =$ $c =$
5	$3(ax+1)-(6x+b) \equiv 21x-8$	$a =$ $b =$
6	$(ax+5)(x-b)+4x \equiv 2x^2+cx-10$	$a =$ $b =$ $c =$
7	$4(3x+a)+5(ax+b) \equiv 22x+28$	$a =$ $b =$
8	$4x^2+ax+3 \equiv b(x+1)^2+c$	$a =$ $b =$ $c =$
9	$\dfrac{ax^2+x-b}{x+2} \equiv x-1$	$a =$ $b =$
10	$2(5x+1)(3x+b)+ax(2x+3) \equiv 44x^2+37x+c$	$a =$ $b =$ $c =$

Equating Coefficients in Identities - Answers

1	$(2x+3)(x-5)+7 \equiv ax^2+bx+c$ $2x^2-7x-15+7=2x^2-7x-8$	$a = 2$ $b = -7$ $c = -8$
2	$(x+1)(x+4)(x-1) \equiv x^3+ax^2+bx+c$ $(x^2-1)(x+4)=x^3+4x^2-x-4$	$a = 4$ $b = -1$ $c = -4$
3	$2x^2+12x-9 \equiv a(x+b)^2+c$ $2x^2+12x-9 \equiv a(x^2+2bx+b^2)+c$ $2x^2+12x-9 \equiv ax^2+2abx+ab^2+c$	$a = 2$ $b = 3$ $c = -27$
4	$(ax+1)(x+c)+b \equiv 5x^2+11x+8$ $ax^2+(ac+1)x+c+b=5x^2+11x+8$	$a = 5$ $b = 6$ $c = 2$
5	$3(ax+1)-(6x+b) \equiv 21x-8$ $3ax+3-6x-b=(3a-6)x+3-b$	$a = 9$ $b = 11$
6	$(ax+5)(x-b)+4x \equiv 2x^2+cx-10$ $ax^2+5x-abx-5b+4x=ax^2+(9-ab)x-5b$	$a = 2$ $b = 2$ $c = 5$
7	$4(3x+a)+5(ax+b) \equiv 22x+28$ $12x+4a+5ax+5b=(12+5a)x+4a+5b$	$a = 2$ $b = 4$
8	$4x^2+ax+3 \equiv b(x+1)^2+c$ $4x^2+ax+3 \equiv b(x^2+2x+1)+c$ $4x^2+ax+3 \equiv bx^2+2bx+b+c$	$a = 8$ $b = 4$ $c = -1$
9	$\frac{ax^2+x-b}{x+2} \equiv x-1$ $ax^2+x-b=(x-1)(x+2)$ $ax^2+x-b=x^2+x-2$	$a = 1$ $b = 2$
10	$2(5x+1)(3x+b)+ax(2x+3) \equiv 44x^2+37x+c$ $2(15x^2+5bx+3x+b)+2ax^2+3ax$ $=30x^2+10bx+6x+2b+2ax^2+3ax$ $=(30+2a)x^2+(3a+10b+6)x+2b$	$a = 7$ $b = 1$ $c = 2$