Exercise 6B

Q1

Answer :

By horizontal method:

$$(5x+7)\times(3x+4)$$
$$=5x(3x+4)+7(3x+4)$$
$$=15x^2+20x+21x+28$$
$$=15x^2+41x+28$$

Q2

Answer :

By horizontal method:

$$(4x+9)\times(x-6)$$
$$=4x(x-6)+9(x-6)$$
$$=4x^2-24x+9x-54$$
$$=4x^2-15x-54$$

Q3

Answer :

By horizontal method:

$$
\begin{aligned}
&(2x+5)\times(4x-3)\\
&=2x(4x-3)+5(4x-3)\\
&=8x^2-6x+20x-15\\
&=8x^2+14x-15
\end{aligned}
$$

Q4

Answer :

By horizontal method:

$$
\begin{aligned}
&(3y-8)\times(5y-1)\\
&=3y(5y-1)-8(5y-1)\\
&=15y^2-3y-40y+8\\
&=15y^2-43y+8
\end{aligned}
$$

Q5

Answer :

By horizontal method:

$$
\begin{aligned}
&(7x+2y)\times(x+4y)\\
&=7x(x+4y)+2y(x+4y)\\
&=7x^2+28xy+2xy+8y^2
\end{aligned}
$$

$$= 7x^2 + 30xy + 8y^2$$

Q6

Answer :

By horizontal method:

$$(9x + 5y) \times (4x + 3y)$$
$$9x(4x + 3y) + 5y(4x + 3y)$$
$$= 36x^2 + 27xy + 20xy + 15y^2$$
$$= 36x^2 + 47xy + 15y^2$$

Q7

Answer :

By horizontal method:

$$(3m - 4n) \times (2m - 3n)$$
$$= 3m(2m - 3n) - 4n(2m - 3n)$$
$$= 6m^2 - 9mn - 8mn + 12n^2$$
$$= 6m^2 - 17mn + 12n^2$$

Q8

Answer :

By horizontal method:

$$(x^2 - a^2) \times (x - a)$$

$= x^2(x-a) - a^2(x-a)$

$= x^3 - ax^2 - a^2x + a^3$

i.e $(x^3 + a^3) - ax(x-a)$

Q9

Answer :

By horizontal method:

$(x^2 - y^2) \times (x + 2y)$

$= x^2(x+2y) - y^2(x+2y)$

$= x^3 + 2x^2y - xy^2 - 2y^3$

$i.e (x^3 - 2y^3) + xy(2x - y)$

Q10

Answer :

By horizontal method:

$$(3p^2+q^2)\times(2p^2-3q^2)$$
$$=3p^2(2p^2-3q^2)+q^2(2p^2-3q^2)$$
$$=6p^4-9p^2q^2+2p^2q^2-3q^4$$
$$i.e 6p^4-7p^2q^2-3q^4$$

Q11

Answer :

By horizontal method:

$$(2x^2-5y^2)\times(x^2+3y^2)$$
$$=2x^2(x^2+3y^2)-5y^2(x^2+3y^2)$$
$$=2x^4+6x^2y^2-5x^2y^2-15y^4$$
$$=2x^4+x^2y^2-15y^4$$

Q12

Answer :

By horizontal method:

$$(x^3-y^3)\times(x^2+y^2)$$
$$=x^3(x^2+y^2)-y^3(x^2+y^2)$$
$$=x^5+x^3y^2-x^2y^3-y^5$$
$$=(x^5-y^5)+x^2y^2(x-y)$$

********** END **********