

**INDIAN SCHOOL MUSCAT – MIDDLE SECTION – DEPARTMENT OF MATHEMATICS**

**DRILL SHEET – ALGEBRAIC IDENTITIES – CLASS 8**

S.NO	EXPAND THE FOLLOWING USING SUITABLE IDENTITIES
1)	a) $(a - 3p)^2$ b) $(x^2 + 2y)^2$ c) $(2p + 3qr)^2$ d) $(5yxm + 3)^2$ e) $(2mn^2 + q)^2$ f) $(x^5 - 7)^2$
2)	a) $(5m - 4)^2$ b) $(9 - z)^2$ c) $(e + 4)^2$ d) $(-4 + 8n)^2$ e) $(-6y - 7)^2$ f) $(7n^3 + 5)^2$
3)	a) $\left(y - \frac{2z}{3}\right)^2$ b) $\left(pq^2 + \frac{m}{n}\right)^2$ c) $\left(\frac{5v}{x} - \frac{ax}{5}\right)^2$ d) $\left(ab + \frac{c}{4}\right)^2$ e) $\left(-2mn + \frac{s}{3}\right)^2$ f) $\left(\frac{a^3b^2}{5} - \frac{5c}{2}\right)^2$

S.NO	QUESTIONS
1)	Find the value of $(p^2 + q^2)$ if $p + q = 12$ and $pq = 2$ .
2)	Find the value of $(a^2 + b^2)$ if $a - b = 8$ and $ab = 6$
3)	Find the value of $(c^2 + d^2)$ if $c + d = 10$ and $cd = -3$
4)	Find the value of $(a^4 + b^4)$ if $a + b = 4$ , $ab = 1$
5)	Find the value of $(x^2 + y^2)$ if $x + y = 2$ and $xy = -10$
6)	Find the value of $\left(x^2 + \frac{1}{x^2}\right)$ if $\left(x - \frac{1}{x}\right) = 6$
7)	Find the value of $\left(y^2 + \frac{1}{y^2}\right)$ if $\left(y + \frac{1}{y}\right) = -10$
8)	Find the value of $\left(z^4 + \frac{1}{z^4}\right)$ if $\left(z - \frac{1}{z}\right) = 3$
9)	Simplify: a) $(5x - 4y)^2 - (7x + 2y)^2 + 3x^2 + 5xy$ b) $(4b - a)^2 + (a - 5b)^2$ c) $(xyz - 1)^2 + 5xyz$ d) $(0.2m^2 + n)^2 + (m - 0.3n)^2$ e) $4c(c - b) + 5(c - 2b)^2$

S.NO	FIND THE PRODUCT USING SUITABLE IDENTITIES
1)	a) $(p + 3)(p + 7)$ b) $(3m - 5)(3m - 2)$ c) $(abc + 3)(abc - 2)$ d) $(k + 7)(-8 + k)$ e) $(6x^2 - 5)(6x^2 + 5)$ f) $(4pq^2 + 1)(4pq^2 - 7)$ g) $(8kl^2 + mn)(-mn + 8kl^2)$ h) $(m - 3)(m + 12)$ f) Simplify : $(a^2 + b^2)(a^2 - b^2) + (b^2 + c^2)(b^2 - c^2) + (c^2 - a^2)(c^2 + a^2)$

S.NO	FIND THE VALUE USING SUITABLE IDENTITIES
1)	a) $55 \times 48$ b) $95 \times 97$ c) $102 \times 98$ d) $79 \times 81$ e) $61^2$ f) $56 \times 44$