INDIAN SCHOOL MUSCAT
SENIOR SECTION
DEPARTMENT OF MATHEMATICS
BRIDGE COURSE
Worksheet on Algebraic Identities

CLASS IX

1. Find the product.

(i) $(a^2) \times (2a^{22}) \times (4a^{26})$ (ii) $\left(\frac{2}{3}xy\right) \times \left(\frac{-9}{10}x^2y^2\right)$

(iii) $\left(-\frac{10}{3}pq^3\right) \times \left(\frac{6}{5}p^3q\right)$

2. Find the product:

(i) $(-3x) \times (-5y + 2)$ (ii) $2(y^3 - 4y^2 + 5)$

(iii) $a^2(2ab - 5c)$ (iv) $4y(3y^2 + 5y - 7)$

3.
(a) Add: $p(p - q)$, $q(q - r)$ and $r(r - p)$
(b) Add: $2x(z - x - y)$ and $2y(z - y - x)$
(c) Subtract: $3l(l - 4m + 5n)$ from $4l(10n - 3m + 2l)$
(d) Subtract: $3a(a + b + c) - 2b(a - b + c)$ from $4c(-a + b + c)$

4. Multiply the binomials.

(i) $(2x + 5)$ and $(4x - 3)$ (ii) $(y - 8)$ and $(3y - 4)$

(iii) $(2.5l - 0.5m)$ and $(2.5l + 0.5m)$ (iv) $(2pq + 3q^2)$ and $(3pq - 2q^2)$

$(a + b)^2 \equiv a^2 + 2ab + b^2$	$(a + b)(a - b) \equiv a^2 - b^2$
$(a - b)^2 \equiv a^2 - 2ab + b^2$	$(x + a)(x + b) \equiv x^2 + (a + b)x + ab$

5. Expand the following using identities

(i) $(2a + 3b)^2$ (ii) $(3x - 4y)^2$

(iii) $(4x + 5y)(4x - 5y)$ (iv) $(xy + 3z)^2$ (v) $(6x^2 - 5y)^2$

6. Use a suitable identity to get each of the following products.

(i) $(4x - 5)(4x - 1)$ (ii) $(2y + 5)(2y + 5)$ (iii) $(4x + 5)(4x + 1)$

(iv) $(3a - \frac{1}{2})(3a - \frac{1}{2})$ (v) $(1.1m - 0.4)(1.1m + 0.4)$