The City School

North Nazimabad Boys Campus

E-Worksheet

Teacher Name: Ambreen Badar   Class: 8   Subject: Mathematics

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Topic: Factorisation

Q1: Factorise each of the following:

(a) $16a^2 + 40ab + 25b^2$
(b) $49x^2 - 28xy + 4b^2$
(c) $2x^2 + 8x - 42$
(d) $x^2 - 10x - 171$
(e) $(x - 3)^2 - 16y^2$
(f) $25p^2 - (q - 4)^2$
(g) $3x^2 - 36xy + 108y^2$
(h) $18x^3 - 8xy^3$

Q2: Factorize the following algebraic expressions:

(a) $6x + 24$
(b) $8x^2 - 4x$
(c) $6xy + 10x^2y$
(d) $m^4 - 3m^2$
(e) $6x^2 + 8x + 12yx$

Q3: For the following expressions, factorize the first pair, then the second pair:

(f) $8m^2 - 12m + 10m - 15$
(g) $x^2 + 5x + 2x + 10$
(h) $m^2 - 4m + 3m - 12$
(i) $2t^2 - 4t + t - 2$
(j) $6y^2 - 15y + 4y - 10$

Q4: Expand the following:

(a) $(x + 2)(x - 2)$ (e) $(2x + 1)(2x - 1)$
(b) $(y + 5)(y - 5)$ (f) $(3m + 4)(3m - 4)$
(c) $(y - 6)(y + 6)$ (g) $(3y + 5)(3y - 5)$
(d) $(x + 7)(x - 7)$ (h) $(2t + 7)(2t - 7)$

Q5: Factorize the following:

(a) $x^2 - 16$
(b) $y^2 - 49$
(c) $x^2 - 25$
(d) $4x^2 - 25$
(e) $16 - y^2$
(f) $m^2 - 36$
(g) $4m^2 - 49$
(h) $9m^2 - 16$

Q6: Factorize the following:

(a) $y^2 - 6y + 9$
(b) $x^2 - 10x + 25$

(c) $x^2 + 8x + 16$
 (d) $x^2 + 20x + 100$
(e) $m^2 + 16m + 64$
 (f) $t\,2 - 30t + 225$
(g) $m^2 - 12m + 36$
(h) $t^2 + 18t + 81$

Q7: Factorize the following quadratics:

(a) $x^2 + 4x + 3$
(b) $x^2 + 15x + 44$
 (c) $x^2 + 11x - 26$
 (d) $x^2 + 7x - 30$
 (e) $x^2 + 10x + 24$
(f) $x^2 - 14x + 24$
 (g) $x^2 - 7x + 10$
(h) $x^2 - 5x - 24$
(i) $x^2 + 2x - 15$
(j) $x^2 - 2x - 15$