

Practice Problems - Lecture 2b

Problem 1. Find the following products:

- (a) $(5x - 6)(3x + 4)$;
- (b) $(8x - 3y)(8x + 3y)$;
- (c) $(3x + 5)^2$;
- (d) $(x - 6y)^2$.

Problem 2. Factor the following expressions completely:

- (a) $4k^2m^3 + 8k^4m^3 - 12k^2m^4$;
- (b) $10ab - 6b + 35a - 21$;
- (c) $p^2q^2 - 10 - 2q^2 + 5p^2$;
- (d) $9y^2 - 18y + 8$;
- (e) $8h^2 - 2h - 6$;
- (f) $x^4 - 16$;
- (g) $16p^2 - 40p + 25$;
- (h) $6(4z - 3)^2 + 7(4z - 3) - 3$;
- (i) $a^4 - 2a^2 - 48$.

Answers:

1. (a) $15x^2 + 2x - 24$;
(b) $64x^2 - 9y^2$;
(c) $9x^2 + 30x + 25$;
(d) $x^2 - 12xy + 36y^2$.
2. (a) $4k^2m^3(1 + 2k^2 - 3m)$;
(b) $(2b + 7)(5a - 3)$;
(c) $(p^2 - 2)(q^2 + 5)$;
(d) $(3y - 2)(3y - 4)$;
(e) $2(4h + 3)(h - 1)$;
(f) $(x - 2)(x + 2)(x^2 + 4)$;
(g) $(4p - 5)^2$;
(h) $2(8z - 3)(6z - 5)$;
(i) $(a^2 - 8)(a^2 + 6)$.