

**Math 05, Homework 9 on Sections 7.1 - 7.4**  
**Hand in by Tue, Apr 5 at the start of class.**

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Write all your working out and answers on a separate sheet. It is very important that you show clearly any work you had to do to get the answer. These first ten questions are 2 points each and **the answers are on page 2.**

- (1) Factor this number completely: 60
  - (2) Factor by finding the greatest common factor (GCF): (a)  $10x + 20$  (b)  $10x^2 + 21$
  - (3) Factor by finding the GCF:  $6x^3 + 15x^2$
  - (4) Factor by finding the GCF:  $14x^3y - 7x^2y - 21xy^2$
  - (5) Factor the differences of squares: (a)  $x^2 - 9^2$  (b)  $81 - 25x^4$
  - (6) Factor:  $x^2 + 100$
  - (7) Factor completely:  $50x^3 - 18x$
  - (8) Factor:  $x^2 + 7x + 10$
  - (9) Factor:  $x^2 - 3x - 18$
  - (10) Factor completely (find the GCF first):  $5x^3 - 55x^2 + 150x$
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These next eight questions are 2 points each. Show clearly all your working out and reasoning.

- (11) Factor this number completely: 126
- (12) Factor by finding the GCF:  $8x - 4$
- (13) Factor by finding the GCF:  $100x^4y - 50x^3 + 45x^2$
- (14) Factor the differences of squares: (a)  $x^2 - 64$  (b)  $64y^2 - 49$
- (15) Factor completely:  $10x^2y - 40y^3$
- (16) Factor:  $x^2 + 10x + 16$
- (17) Factor:  $x^2 - 15x + 36$
- (18) Factor completely (find the GCF first):  $2x^3 - 12x^2 - 32x$

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**Answers to questions (1)-(10):**

- (1)  $2^2 \cdot 3 \cdot 5$
- (2) **(a)**  $10(x + 2)$  **(b)** GCF= 1, does not factor
- (3)  $3x^2(2x + 5)$
- (4)  $7xy(2x^2 - x - 3y)$
- (5) **(a)**  $(x + 9)(x - 9)$ , **(b)**  $(9 + 5x^2)(9 - 5x^2)$
- (6) Not a difference of squares, does not factor
- (7)  $2x(5x + 3)(5x - 3)$
- (8)  $(x + 2)(x + 5)$
- (9)  $(x + 3)(x - 6)$
- (10)  $5x(x - 5)(x - 6)$