

M007 – Elementary Algebra Practice Quiz 5 (5.1-5.6)

Note: This review sheet was created to correspond with the fifth quiz in M007. As such, this document is only to help you review the concepts presented in your text. Each instructor may have other specific problems you should review in order to be prepared for quizzes and/or exams in your section of the course.

Factor Completely. Note that some problems can be factored more than once.

1) $y^6 + 2y^4 + y^2$

2) $4 - 68r + 20r^2$

3) $n^2 + 4n + 4$

4) $a^2(b + c) + 4a(b + c) + (b + c)$

5) $x^2 - 6x + 9$

6) $16r^2 - 9$

7) $a^4 + 8a^2 + 16$

8) $6a^2 - 7a + 2$

9) $16x^2 - 24xy + 9y^2$

10) $6x^2 - 29x + 28$

12) $4y^2 + 8y - 60$

13) $4a^2 + 10a + 6a + 15$

14) $2y^2 + 7y + 3$

15) $4z^2 - 4z - 3$

16) $15m^2 - 22mn + 8n^2$

17) $16z^2 + 30z - 54$

18) $4x^4 - 13x^2 + 36$

19) $6x^2 + 8x + 15x + 20$

20) $28x^2 - 27xy - 10y^2$

21) $4a^4 - 1$

22) $16a^8 - 1$

23) $8x^3 + 27y^3$

24) $24x^3 - 3$

25) Without multiplying $(x - 17)(x - 18)$, explain why it cannot possibly be a factorization of $x^2 + 35x + 306$.

26) Leon concludes that since $x^2 - 9 = (x - 3)(x + 3)$, it must follow that $x^2 + 9 = (x + 3)(x - 3)$. What mistake(s) is he making?

27) Dino incorrectly believes that $a^3 - b^3 = (a - b)(a^2 + b^2)$. How could you convince him that he is wrong?

