Student: yaser almohaws **Submitted:** 11/18/14 9:43pm	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Graded Homework 5

1. Factor the trinomial.

$r^2 - 7r + 10$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

A. The answer is $(r-5)(r-2)$. (Factor completely.)

B. The trinomial is not factorable.

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2. Factor.

$s^2 - 4s - 21$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

A. The answer is $(s-7)(s+3)$. (Factor completely.)

B. The trinomial is not factorable.

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3. Factor using the ac-method.

$12y + 9y^2 - 21$

Select the correct choice below, and fill in the answer box, if necessary.

A. $12y + 9y^2 - 21 = 3(y-1)(3y+7)$ (Factor completely.)

B. The given trinomial is prime.

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4. Factor.

$b^2 - 12b + 36$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $b^2 - 12b + 36 = (b-6)(b-6)$ (Factor completely.)

B. The polynomial is prime.

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5. Factor completely.

$5c^4 - 405$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $5c^4 - 405 =$ $5(c^2 + 9)(c - 3)(c + 3)$ (Factor completely.)

B. The binomial is not factorable.

6. Factor.

$25 + 20a + 4a^2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $25 + 20a + 4a^2 =$ $(2a + 5)(2a + 5)$ (Factor completely.)

B. The trinomial is not factorable.

7. Find the GCF of the following terms.

$13x^4, x^2$

The GCF is x^2. (Simplify your answer.)

8. Factor.

$252c^3 - 462c^2 + 196c$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $252c^3 - 462c^2 + 196c =$ $14c(6c - 7)(3c - 2)$ (Factor completely.)

B. The trinomial is not factorable.

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9. Factor the trinomial.

$r^2 - 7rf - 30f^2$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. The answer is $(r - 10f)(r + 3f)$.(Factor completely.)

B. The trinomial is not factorable.

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10. Factor completely.

$100c^2 - 80c + 16$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $100c^2 - 80c + 16 = 4(5c - 2)(5c - 2)$ (Factor completely.)

B. The trinomial is not factorable.

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11. Factor by grouping.

$x^3 + 7x^2 - 8x - 56$

$x^3 + 7x^2 - 8x - 56 = (x^2 - 8)(x + 7)$

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12. Factor.

$9b^2 - 10b + 1$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $9b^2 - 10b + 1 = (9b - 1)(b - 1)$ (Factor completely.)

B. The trinomial is not factorable.

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13. Factor by grouping.

$x^3 + 2x^2 + 8x + 16$

$x^3 + 2x^2 + 8x + 16 = (x^2 + 8)(x + 2)$

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14. Factor.

$343c^6 - 8d^6$

Choose the correct factored form.

A. $(7c^2 - 2d^2)(49c^2 - 14c^2d^2 + 4d^2)$

B. $(7c^3 - 2d^3)(49c^2 - 14c^2d^2 + 4d^2)$

C. $(49c^2 + 4d^2)(49c^2 - 14c^2d^2 + 4d^2)$

D. $(7c^2 - 2d^2)(49c^4 + 14c^2d^2 + 4d^4)$

15. Factor. Check by multiplying.

$6x^7 + 6x^6 - 18x^5 + 18x^4$

$6x^7 + 6x^6 - 18x^5 + 18x^4 = 6x^4(x^3 + x^2 - 3x + 3)$

16. Factor. Check by multiplying.

$x^2 - 4x$

The factorization is $x(x - 4)$.

17. Factor by grouping.

$15r^2 - 19r - 10$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

A. $15r^2 - 19r - 10 = (5r + 2)(3r - 5)$ (Factor completely.)

B. The trinomial is not factorable.

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18. Factor completely by grouping.

$15u^3 + 63u^2 - 60u$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. The correct factorization is $15u^3 + 63u^2 - 60u =$ $3u(5u-4)(u+5)$. (Simplify your answer. Factor completely.)
- B. The trinomial is not factorable.

19. Factor completely.

$6r^2 - 216$

Select the correct choice below and fill in the answer box within your choice if necessary.

- A. $6r^2 - 216 =$ $6(r-6)(r+6)$
- B. The binomial is not factorable.

20. Factor completely.

$1 - b^8$

Choose the correct factorization.

- A. $(1+b^4)(1+b^2)(1-b^2)$
- B. $(1+b^4)(1-b^4)$
- C. $(1+b^4)(1+b^2)(1+b)(1-b)$
- D. Not factorable

21. Factor the trinomial.

$v^3 - 2v^2 - 15v$

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- A. $v^3 - 2v^2 - 15v =$ $v(v-5)(v+3)$ (Factor completely.)
- B. The trinomial is not factorable.

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22. Factor completely.

$81s^2 - 49$

Select the correct choice below and, if necessary, fill in the answer box within your choice.

A. The answer is $(9s - 7)(9s + 7)$. (Factor completely.)

B. The binomial is not factorable.