Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

1. Factor. Check by multiplying.

$x^2 - 7x$

The factorization is $x(x-7)$.

2. Factor. Check by multiplying.

$2x^4 - 16x^2$

$2x^4 - 16x^2 = 2x^2(x^2 - 8)$

3. Factor. Check by multiplying.

$6x^8y^6 + 30x^6y^5 + 48xy$

$6x^8y^6 + 30x^6y^5 + 48xy = 6xy(x^7y^5 + 5x^5y^4 + 8)$

4. Factor. Check by multiplying.

$17x^5 - 9x^3 + 12x^2$

$17x^5 - 9x^3 + 12x^2 = x^2(17x^3 - 9x + 12)$

5. Factor. Check by multiplying.

$3x^9 + 3x^8 - 9x^7 + 9x^6$

$3x^9 + 3x^8 - 9x^7 + 9x^6 = 3x^6(x^3 + x^2 - 3x + 3)$

6. Factor. Check by multiplying.

$\frac{7}{3}x^7 + \frac{4}{3}x^6 + \frac{1}{3}x^4 + \frac{1}{3}x^3$

Factor out the greatest monomial factor so that the polynomial factor has all integer coefficients.

$\frac{7}{3}x^7 + \frac{4}{3}x^6 + \frac{1}{3}x^4 + \frac{1}{3}x^3 = \frac{1}{3}x^3(7x^4 + 4x^3 + x + 1)$ (Factor completely.)

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

7. Factor.

$x^3(x+3)+3(x+3)$

$x^3(x+3)+3(x+3) = (x^3+3)(x+3)$

8. Factor.

$3a^3(3a-8)-(3a-8)$

$3a^3(3a-8)-(3a-8) = (3a^3-1)(3a-8)$

9. Factor by grouping.

$10x^3-14x^2+15x-21$

$10x^3-14x^2+15x-21 = (5x-7)(2x^2+3)$

10. Factor by grouping.

$x^3+3x^2-5x-15$

$x^3+3x^2-5x-15 = (x^2-5)(x+3)$

11. Factor the trinomial.

$s^2+10s+24$

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

A. The answer is $(s+4)(s+6)$. (Factor completely.)

B. The trinomial is not factorable.

12. Factor the trinomial.

$c^2-10c+16$

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

A. The answer is $(c-8)(c-2)$. (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws	**Instructor:** fahad aljabr	**Assignment:** Week 5 Practice
Date: 1/1/15	**Course:** MATH-001: Fundamentals of Math 11415	Exercises
Time: 11:19 AM	**Book:** Bittinger: Introductory and Intermediate Algebra, 4e	

13. Factor the trinomial.

$a^2 + a + 3$

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

A. $a^2 + a + 3 =$ ☐ (Factor completely.)

B. The trinomial is not factorable.

14. Factor the trinomial.

$r^3 - 4r^2 - 32r$

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

A. $r^3 - 4r^2 - 32r = r(r-8)(r+4)$ (Factor completely.)

B. The trinomial is not factorable.

15. Factor.

$-3b - 54 + b^2$

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

A. $-3b - 54 + b^2 = (b-9)(b+6)$ (Factor completely.)

B. The trinomial is not factorable.

16. Factor.

$9 - 2b + b^2$

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

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

B. The trinomial is not factorable.

Student: yaser almohaws	**Instructor:** fahad aljabr	**Assignment:** Week 5 Practice
Date: 1/1/15	**Course:** MATH-001: Fundamentals of Math 11415	Exercises
Time: 11:19 AM	**Book:** Bittinger: Introductory and Intermediate Algebra, 4e	

17. Factor the trinomial completely.

$x^9 - 6x^8 - 16x^7$

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

A. $x^9 - 6x^8 - 16x^7 = x^7(x-8)(x+2)$ (Factor completely.)

B. The polynomial is prime.

18. Factor.

$r^2 - 5r - 84$

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

A. $r^2 - 5r - 84 = (r-12)(r+7)$ (Factor completely.)

B. The trinomial is not factorable.

19. Factor the trinomial.

$r^2 + 4rd - 45d^2$

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

A. $r^2 + 4rd - 45d^2 = (r-5d)(r+9d)$ (Factor completely.)

B. The trinomial is not factorable.

20. Multiply.

$(7t-9)(7t+9)$

The answer is $49t^2 - 81$.
(Simplify your answer.)

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

21. Factor.

$6x^2 + 13x + 5$

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

A. $6x^2 + 13x + 5 = (3x + 5)(2x + 1)$. (Factor completely.)

B. The trinomial is not factorable.

22. Factor.

$7x^2 - 5x - 2$

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

A. $7x^2 - 5x - 2 = (7x + 2)(x - 1)$ (Factor completely.)

B. The trinomial is not factorable.

23. Factor.

$5b^2 - 8b - 4$

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

A. $5b^2 - 8b - 4 = (5b + 2)(b - 2)$

B. The trinomial is not factorable.

24. Factor.

$81 - 126c + 49c^2$

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

A. $81 - 126c + 49c^2 = (7c - 9)(7c - 9)$ (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

25. Factor the trinomial, or state that the trinomial is prime.

$4y^2 + 18y - 36$

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

A. $4y^2 + 18y - 36 = 2(y + 6)(2y - 3)$ (Factor completely.)

B. The polynomial is prime.

---

26. Factor completely.

$6b^2 - 26b - 112$

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

A. $6b^2 - 26b - 112 = 2(b - 7)(3b + 8)$ (Factor completely.)

B. The polynomial is prime.

---

27. Factor the following polynomial.

$12b^2 - 76b - 160$

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

A. $12b^2 - 76b - 160 = 4(b - 8)(3b + 5)$ (Type your answer in factored form.)

B. The polynomial is prime.

---

28. Factor.

$360c^3 - 702c^2 + 324c$

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

A. $360c^3 - 702c^2 + 324c = 18c(5c - 6)(4c - 3)$ (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws	**Instructor:** fahad aljabr	**Assignment:** Week 5 Practice
Date: 1/1/15	**Course:** MATH-001: Fundamentals of Math 11415	Exercises
Time: 11:19 AM	**Book:** Bittinger: Introductory and Intermediate Algebra, 4e	

29. Factor the following polynomial.

$6x^2 - 23x - 2$

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

A. $6x^2 - 23x - 2 =$ ☐

B. The polynomial is prime.

30. Factor completely.

$27a^2 + 39ap + 14p^2$

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

A. $27a^2 + 39ap + 14p^2 = (3a + 2p)(9a + 7p)$ (Factor completely.)

B. The trinomial is not factorable.

31. Factor by grouping.

$2s^2 - 15s - 8$

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

A. $2s^2 - 15s - 8 = (2s + 1)(s - 8)$

B. The trinomial is not factorable.

32. Factor by grouping.

$9v^2 + 15v + 4$

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

A. $9v^2 + 15v + 4 = (3v + 1)(3v + 4)$ (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

33. Factor by grouping.

$10r^2 - 19r - 15$

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

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

B. The trinomial is not factorable.

---

34. Factor by grouping.

$6a^2 + 7a + 2$

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

A. $6a^2 + 7a + 2 = (3a+2)(2a+1)$ (Factor completely.)

B. The trinomial is not factorable.

---

35. Factor using the ac-method.

$20x^2 - 59x - 3$

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

A. $20x^2 - 59x - 3 = (20x+1)(x-3)$ (Factor completely.)

B. The given trinomial is prime.

---

36. Factor completely.

$v^3 - 6v^2 + 9v$

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

A. $v^3 - 6v^2 + 9v = v(v-3)(v-3)$ (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

37. Factor completely.

$45c^2 - 150c + 125$

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

A. $45c^2 - 150c + 125 = 5(3c - 5)(3c - 5)$ (Factor completely.)

B. The trinomial is not factorable.

38. Factor completely.

$4 - 12w + 9w^2$

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

A. $4 - 12w + 9w^2 = (3w - 2)^2$ (Factor completely.)

B. The trinomial is not factorable.

39. Factor completely.

$8r^4 + 16r^2 + 8$

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

A. $8r^4 + 16r^2 + 8 = 8(r^2 + 1)^2$ (Factor completely.)

B. The trinomial is not factorable.

40. Factor completely.

$25v^2 + 30vf + 9f^2$

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

A. $25v^2 + 30vf + 9f^2 = (5v + 3f)^2$ (Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

41. Factor completely.

$12b^2 + 36bg + 27g^2$

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

A. $12b^2 + 36bg + 27g^2 = 3(2b + 3g)^2$

B. The polynomial is prime.

---

42. Factor completely.

$25w^2 - 16$

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

A. The answer is $(5w + 4)(5w - 4)$. (Factor completely.)

B. The binomial is not factorable.

---

43. Factor.

$8v^2 - 50$

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

A. $8v^2 - 50 = 2(2v - 5)(2v + 5)$
(Type your answer in factored form. Simplify your answer.)

B. The binomial is not factorable.

---

44. Factor.

$4v^4 - 121$

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

A. $4v^4 - 121 = (2V^2 - 11)(2V^2 + 11)$ (Factor completely.)

B. The binomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

45. Factor completely.

$625b^4 - d^4$

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

A. $625b^4 - d^4 = (25b^2 + d^2)(5b - d)(5b + d)$ (Factor completely.)

B. The binomial is not factorable.

46. Factor completely.

$3s^2 - 192$

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

A. $3s^2 - 192 = 3(s + 8)(s - 8)$

B. The binomial is not factorable.

47. Factor completely.

$5b^2 - 22b + 8$

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

A. $5b^2 - 22b + 8 = (5b - 2)(b - 4)$ (Factor completely.)

B. The trinomial is not factorable.

48. Factor by grouping.

$15c^3 + 5c^2 - 120c$

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

A. The answer is $5c(c + 3)(3c - 8)$.

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

49. Factor completely.

a^2+9

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

A. $a^2+9=$ ☐

B. The binomial is not factorable.

50. Factor completely.

$b^5-16b^4+64b^3$

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

A. $b^5-16b^4+64b^3=b^3(b-8)^2$

B. The trinomial is not factorable.

51. Factor completely.

$3w^4-243$

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

A. The answer is $3(w^2+9)(w-3)(w+3)$.
(Type your answer in factored form. Simplify your answer.)

B. The binomial is not factorable.

52. Factor completely.

$a^5-9a^4+8a^3$

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

A. The answer is $a^3(a-8)(a-1)$.
(Factor completely.)

B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

53. Factor completely.

$2b^2g^2 - 6bg$

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

- A. $2b^2g^2 - 6bg =$ $2bg(bg - 3)$ (Factor completely.)
- B. The binomial is not factorable.

54. Factor completely.

$(x - 3)(x + 3) - p(x + 3)$

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

- A. $(x - 3)(x + 3) - p(x + 3) =$ $(x + 3)(x - 3 - p)$ (Simplify your answer.)
- B. The polynomial is not factorable.

55. Factor completely.

$20s^2 - 5s + 4sf - f$

Choose the correct factorization of $20s^2 - 5s + 4sf - f$.

- A. $(5s - f)(4s - 1)$
- B. $5s + f(4s - 1)$
- C. $(5s + f)(4s - 1)$
- D. $(5s + f)(4s + 1)$

56. Factor completely.

$25w^2 + 30wd + 9d^2$

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

- A. $25w^2 + 30wd + 9d^2 =$ $(5w + 3d)^2$ (Factor completely.)
- B. The trinomial is not factorable.

Student: yaser almohaws **Date:** 1/1/15 **Time:** 11:19 AM	**Instructor:** fahad aljabr **Course:** MATH-001: Fundamentals of Math 11415 **Book:** Bittinger: Introductory and Intermediate Algebra, 4e	**Assignment:** Week 5 Practice Exercises

57. Factor completely.

$a^2 - ap - 2p^2$

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

A. $a^2 - ap - 2p^2 = (a + p)(a - 2p)$
(Factor completely.)

B. The trinomial is not factorable.