Student: _____ **Date:** _____	**Instructor:** Kathryn Maloney **Course:** MA098 Intermediate Algebra Spring 2021	**Assignment:** Graded Test Factoring (70% required)

1. Factor by grouping.

$8st + 28t - 10s - 35$

$8st + 28t - 10s - 35 =$ _____

2. Factor by grouping.

$8z^2 + 32z - az - 4a$

$8z^2 + 32z - az - 4a =$ _____

3. Factor the given polynomial.

$x^2 + 8x + 15$

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

- **A.** $x^2 + 8x + 15 =$ _____
- **B.** The polynomial is prime.

4. Factor the trinomial completely.

$2x^2 + 23x + 11$

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

- **A.** $2x^2 + 23x + 11 =$ _____
- **B.** The trinomial is prime.

5. Factor the trinomial completely.

$7r^2 + 48r - 7$

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

- **A.** $7r^2 + 48r - 7 =$ _____
- **B.** The trinomial is prime.

6. Factor the trinomial completely.

$6b^2 - 28b + 16$

Select the correct choice below and fill in any answer boxes within your choice.

- **A.** $6b^2 - 28b + 16 =$ _____
- **B.** The polynomial is prime.

7. Factor completely.

$r^2 + 2r + 3$

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

- **A.** $r^2 + 2r + 3 =$ _____
- **B.** The polynomial is prime.

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8. Factor completely.

$x^2 - x - 20$

- **A.** $(x + 4)(x - 5)$
- **B.** Prime
- **C.** $(x + 5)(x - 4)$
- **D.** $(x + 1)(x - 20)$

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9. The middle term of the trinomial has been rewritten. Now factor by grouping.

$p^2 + 4p + 7p + 28$

- **A.** $(p + 4)(p - 7)$
- **B.** $(p - 4)(p - 7)$
- **C.** $p(p + 39)$
- **D.** $(p + 4)(p + 7)$

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10. Factor as completely as possible. If unfactorable, indicate that the polynomial is prime.

$14x^2 - 49x - 28$

- **A.** $7(2x + 1)(x - 4)$
- **B.** $7(2x - 1)(x + 4)$
- **C.** $(14x - 7)(x + 4)$
- **D.** prime

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11. Factor the given polynomial completely. If the polynomial cannot be factored, say that it is prime.

$x^2 - 3x - 40$

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

- **A.** $x^2 - 3x - 40 =$ _____
- **B.** The polynomial is prime.

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*12. Factor the following trinomial.

$2c^2 - 7c + 5$

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

- **A.** $2c^2 - 7c + 5 =$ _____ (Type your answer in factored form.)
- **B.** The trinomial is not factorable.

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*13. Factor.

$8x^2 + 43x + 15$

- **A.** $(x - 10)(x + 5)$
- **B.** $(8x - 10)(x + 5)$
- **C.** $(8x + 3)(x + 5)$
- **D.** $(x + 3)(x + 5)$

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*14. Factor.

$9x^2 - 31x - 20$

- **A.** $(9x + 5)(x - 4)$
- **B.** $(x + 9)(x - 4)$
- **C.** $(5x + 9)(x - 4)$
- **D.** $(x - 5)(x - 4)$

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*15. Factor.

$8y^2 + 18y + 9$

- **A.** $(8y + 1)(y - 9)$
- **B.** $(8y + 3)(y + 3)$
- **C.** $(4y - 3)(2y - 3)$
- **D.** $(4y + 3)(2y + 3)$

1. $(2s + 7)(4t - 5)$

2. $(z + 4)(8z - a)$

3. A. $x^2 + 8x + 15 =$ **$(x + 3)(x + 5)$**

4. A. $2x^2 + 23x + 11 =$ **$(2x + 1)(x + 11)$**

5. A. $7r^2 + 48r - 7 =$ **$(7r - 1)(r + 7)$**

6. A. $6b^2 - 28b + 16 =$ **$2(3b - 2)(b - 4)$**

7. B. The polynomial is prime.

8. A. $(x + 4)(x - 5)$

9. D. $(p + 4)(p + 7)$

10. A. $7(2x + 1)(x - 4)$

11. A. $x^2 - 3x - 40 =$ **$(x - 8)(x + 5)$**

12. A. $2c^2 - 7c + 5 =$ **$(2c - 5)(c - 1)$** (Type your answer in factored form.)

13. C. $(8x + 3)(x + 5)$

14. A. $(9x + 5)(x - 4)$

15. D. $(4y + 3)(2y + 3)$