Student: _____	**Instructor:** Ray Brown	**Assignment:** ch13rev HW
Date: _____	**Course:** M050 Sum17 CAI 10052 G43	

1. Click the link below to watch a video reviewing concepts in this chapter. You are encouraged to watch the video and work problems with the instructor to help ensure your understanding of the material.

   Chapter 13 Review[1]

   ○ True - I understand the concept.
   ○ False - I am not understanding the concept and intend to seek assistance.

   1: http://www.screencast.com/t/hdgCN7IxsCg7

   Answer: True - I understand the concept.

2. Which of the following common factors of $18b^4 + 12b^3$ is the greatest common factor?

   Choose the correct answer below.

   ○ **A.** $6b^2$
   ○ **B.** $2b^3$
   ○ **C.** $3b^3$
   ○ **D.** $6b$
   ○ **E.** $6b^3$

   Answer: E. $6b^3$

3. Factor the expression.

   $18y^3 - 3y^2$

   $18y^3 - 3y^2 =$ _____

   Answer: $3y^2(6y - 1)$

4. Identify the greatest common factor. Then factor the expression.

$$4x^6 + 8x^5 - 12x^4 + 8x^3$$

What is the greatest common factor?

_____

Factor the expression.

$4x^6 + 8x^5 - 12x^4 + 8x^3 =$ _____

Answers $4x^3$

$$4x^3\left(x^3 + 2x^2 - 3x + 2\right)$$

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5. Factor.

$$x(x + 1) - 4(x + 1)$$

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

○ **A.** $x(x + 1) - 4(x + 1) =$ _____

○ **B.** The expression is not factorable.

Answer: A. $x(x + 1) - 4(x + 1) =$ **(x − 4)(x + 1)**

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6. Completely factor the polynomial.

$$x^5 + 4x^4 - 2x^3 - 8x^2$$

$x^5 + 4x^4 - 2x^3 - 8x^2 =$ _____

Answer: $x^2\left(x^2 - 2\right)(x + 4)$

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7. Find the integer pair that has the given product and sum.

      The product is 50   The sum is 27

What are the two integers?

_____ (Use a comma to separate answers as needed.)

Answer: 2,25

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8. Factor the trinomial, or state that the trinomial is prime. Check the factorization using FOIL multiplication.

    $y^2 - 14y + 33$

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

    ○ **A.** $y^2 - 14y + 33 =$ _____

    ○ **B.** The polynomial is prime.

    Answer: A. $y^2 - 14y + 33 =$ __(y − 3)(y − 11)__

9. Factor the trinomial completely. If this trinomial contains a greatest common factor (other than 1), don't forget to factor out the GCF first.

    $x^2 - 19x - 120$

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

    ○ **A.** $x^2 - 19x - 120 =$ _____

    ○ **B.** The polynomial is prime.

    Answer: A. $x^2 - 19x - 120 =$ __(x + 5)(x − 24)__

10. Factor the trinomial.

    $x^2 + 13x - 35$

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

    ○ **A.** $x^2 + 13x - 35 =$ _____

    ○ **B.** The trinomial is prime.

    Answer: B. The trinomial is prime.

11. Factor the trinomial completely.

    $4a^3 + 20a^2 + 24a$

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

    ○ **A.** $4a^3 + 20a^2 + 24a =$ _____

    ○ **B.** The trinomial is prime.

    Answer: A. $4a^3 + 20a^2 + 24a =$ __4a(a + 3)(a + 2)__

12. Factor the trinomial.

$$12 - 7x + x^2$$

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

○ **A.** $12 - 7x + x^2 =$ _____

○ **B.** The trinomial is prime.

Answer: A. $12 - 7x + x^2 =$ __**(x − 3)(x − 4)**__

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13. Factor the trinomial. (Hint: Write (m − x)(n + x) and find m and n.)

$$12 + 4x - x^2$$

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

○ **A.** $12 + 4x - x^2 =$ _____

○ **B.** The trinomial is prime.

Answer: A. $12 + 4x - x^2 =$ __**(6 − x)(x + 2)**__

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14. Factor as a perfect square trinomial whenever possible.

$$25y^2 + 80y + 64$$

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

○ **A.** $25y^2 + 80y + 64 =$ _____

○ **B.** The polynomial is prime.

Answer: A. $25y^2 + 80y + 64 =$ __**(5y + 8)^2**__

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15. Factor.

$$25x^2 + 36$$

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

○ **A.** $25x^2 + 36 =$ _____

○ **B.** The polynomial is prime.

Answer: B. The polynomial is prime.

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16. Factor the following binomial completely.

   $x^2 - 144$

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

   ○ **A.** $x^2 - 144 =$ _____ (Factor completely.)
   ○ **B.** The polynomial is prime.

   Answer: A. $x^2 - 144 =$ __**(x + 12)(x − 12)**__ (Factor completely.)

17. Factor the following binomial completely.

   $9x^2 - 1$

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

   ○ **A.** $9x^2 - 1 =$ _____ (Factor completely.)
   ○ **B.** The polynomial is prime.

   Answer: A. $9x^2 - 1 =$ __**(3x + 1)(3x − 1)**__ (Factor completely.)

18. Factor.

   $100 - x^2$

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

   ○ **A.** $100 - x^2 =$ _____
   ○ **B.** The polynomial is prime.

   Answer: A. $100 - x^2 =$ __**(10 − x)(10 + x)**__