

Student: _____**Instructor:** Ray Brown**Assignment:** HW 3.6 to 3.10 Review**Date:** _____**Course:** FRCC MAT 050.603 Sp17a

1. Perform the indicated operation, if possible.

$$x^7 + x^7$$

Choose the correct answer below.

- A. $x^7 + x^7 =$ _____
- B. The addition cannot be performed.

2. Multiply.

$$(5x^2)(-3x^9)(3x^7)$$

$$(5x^2)(-3x^9)(3x^7) = \underline{\hspace{2cm}} \text{ (Simplify your answer.)}$$

3. Multiply.

$$(x-6)(x^2-7x+4)$$

$$(x-6)(x^2-7x+4) = \underline{\hspace{2cm}}$$

4. Multiply.

$$(7y+8)^2$$

$$(7y+8)^2 = \underline{\hspace{2cm}} \text{ (Simplify your answer. Do not factor.)}$$

5. Use FOIL to multiply.

$$(2x-8)(x+2)$$

$$(2x-8)(x+2) = \underline{\hspace{2cm}} \text{ (Simplify your answer.)}$$

6. Multiply.

$$(3y^2-1)(3y^2+1)$$

$$(3y^2-1)(3y^2+1) = \underline{\hspace{2cm}}$$

7. Multiply.

$$(a+5)(a+3)$$

$$(a+5)(a+3) = \underline{\hspace{2cm}} \text{ (Simplify your answer.)}$$

8. Divide.

$$\frac{12p^8 + 18p^5}{3p}$$

$$\frac{12p^8 + 18p^5}{3p} = \underline{\hspace{2cm}}$$

9. Divide.

$$\frac{-10x^5 + 8x^3 - 16}{2x^2}$$

$$\frac{-10x^5 + 8x^3 - 16}{2x^2} = \underline{\hspace{2cm}} \text{ (Simplify your answer.)}$$

10. Perform the division.

$$\frac{15x^4 - 10x^3 + 7}{-15x^4}$$

$$\frac{15x^4 - 10x^3 + 7}{-15x^4} = \underline{\hspace{2cm}}$$

11. Find the GCF for the list.

$$175x^6, -35x^7, 7x^8$$

The GCF is .

12. Factor out the GCF from the polynomial.

$$80xy - 45x^2$$

$$80xy - 45x^2 = \underline{\hspace{2cm}} \text{ (Type your answer in factored form.)}$$

13. Factor out the GCF from the given polynomial.

$$14x^3 + 18x^2 - 4x$$

$$14x^3 + 18x^2 - 4x = \underline{\hspace{2cm}} \text{ (Type your answer in factored form.)}$$

14. Factor out the GCF from the given polynomial.

$$y(x - 5) - 3(x - 5)$$

$$y(x - 5) - 3(x - 5) = \underline{\hspace{2cm}} \text{ (Type your answer in factored form.)}$$

15. Factor the following four-term polynomial by grouping.

$$x^3 + 4x^2 + x + 4$$

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

- A. $x^3 + 4x^2 + x + 4 =$ _____
- B. The polynomial is not factorable by grouping.

16. Factor the following four-term polynomial by grouping.

$$2y - 8 + xy - 4x$$

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

- A. $2y - 8 + xy - 4x =$ _____
- B. The polynomial is not factorable by grouping.

17. Factor the four-term polynomial by grouping.

$$18x^2y - 45x^2 - 12y + 30$$

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

- A. $18x^2y - 45x^2 - 12y + 30 =$ _____
- B. The polynomial is not factorable by grouping.

18. The factorization $(3x - 15)(x - 4)$, is completely factored. True or false?

Choose the correct answer below.

- False
- True

19. Factor the trinomial completely.

$$x^2 + 10x + 9$$

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

- A. $x^2 + 10x + 9 =$ _____
- B. The polynomial is prime.

20. Factor the trinomial completely.

$$x^2 - 3x - 10$$

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

- A. $x^2 - 3x - 10 =$ (_____ Type your answer in factored form.)
- B. The polynomial is prime.

21. Factor the trinomial completely.

$$x^2 + 5x + 3$$

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

- A. $x^2 + 5x + 3 =$ _____ (Type your answer in factored form.)
- B. The polynomial is prime.

22. Factor the trinomial completely.

$$a^4 - 2a^2 - 15$$

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

- A. $a^4 - 2a^2 - 15 =$ _____
- B. $a^4 - 2a^2 - 15$ is prime.

23. Factor the trinomial completely.

$$3x^2 + 18x + 24$$

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

- A. $3x^2 + 18x + 24 =$ _____
(Factor completely.)
- B. The polynomial is prime.

24. Factor the trinomial completely.

$$4x^2y + 12xy - 8y$$

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

- A. $4x^2y + 12xy - 8y =$ _____ (Factor completely.)
- B. The polynomial is prime.

25. Factor the trinomial by grouping.

$$6x^2 - 11x + 4$$

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

- A. $6x^2 - 11x + 4 =$ _____ (Factor completely.)
- B. $6x^2 - 11x + 4$ is prime.

26. Factor the trinomial by grouping.

$$2z^2 + 17z + 10$$

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

- A. $2z^2 + 17z + 10 =$ _____ (Factor completely.)
- B. The polynomial is prime.
-

27. Factor the following trinomial completely.

$$x^2 - 24x + 144$$

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

- A. $x^2 - 24x + 144 =$ _____
- B. $x^2 - 24x + 144$ is prime.
-

28. Factor the following.

$$81x^2 + 18x + 1$$

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

- A. $81x^2 + 18x + 1 =$ _____
- B. $81x^2 + 18x + 1$ is prime.
-

29. Factor the following binomial completely.

$$x^2 - 100$$

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

- A. $x^2 - 100 =$ _____
- B. $x^2 - 100$ is prime.
-

30. Factor the following binomial completely.

$$9x^2 - 4$$

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

- A. $9x^2 - 4 =$ _____
- B. $9x^2 - 4$ is prime.
-

31. Factor the following binomial completely.

$$9x^2 + 64$$

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

- A. $9x^2 + 64 =$ _____
- B. $9x^2 + 64$ is prime.

1. A. $x^7 + x^7 = \underline{2x^7}$

2. $-45x^{18}$

3. $x^3 - 13x^2 + 46x - 24$

4. $49y^2 + 112y + 64$

5. $2x^2 - 4x - 16$

6. $9y^4 - 1$

7. $a^2 + 8a + 15$

8. $4p^7 + 6p^4$

9. $-5x^3 + 4x - \frac{8}{x^2}$

10. $-1 + \frac{2}{3x} - \frac{7}{15x^4}$

11. $7x^6$

12. $5x(16y - 9x)$

13. $2x(7x^2 + 9x - 2)$

14. $(x - 5)(y - 3)$

15. A. $x^3 + 4x^2 + x + 4 = \underline{(x^2 + 1)(x + 4)}$

16. A. $2y - 8 + xy - 4x = \underline{(2 + x)(y - 4)}$

17. A. $18x^2y - 45x^2 - 12y + 30 = \underline{3(3x^2 - 2)(2y - 5)}$

18. False

19. A. $x^2 + 10x + 9 = \underline{(x + 9)(x + 1)}$

20. A. $x^2 - 3x - 10 = (\underline{x + 2})(\underline{x - 5})$ Type your answer in factored form.)

21. B. The polynomial is prime.

22. A. $a^4 - 2a^2 - 15 = \underline{(a^2 + 3)(a^2 - 5)}$

23. A. $3x^2 + 18x + 24 = \underline{3(x + 2)(x + 4)}$ (Factor completely.)

24. A. $4x^2y + 12xy - 8y = \underline{4y(x^2 + 3x - 2)}$ (Factor completely.)

25. A. $6x^2 - 11x + 4 = \underline{(2x - 1)(3x - 4)}$ (Factor completely.)

26. B. The polynomial is prime.

27. A. $x^2 - 24x + 144 = \underline{(x - 12)^2}$

28. A. $81x^2 + 18x + 1 = \underline{(9x + 1)^2}$

29. A. $x^2 - 100 = \underline{(x + 10)(x - 10)}$

30. A. $9x^2 - 4 = \underline{(3x + 2)(3x - 2)}$

31. B. $9x^2 + 64$ is prime.
