

For # 1 – 12, simplify by performing the indicated operation.

1) $(3z^2 + z - 4) + (-z^2 + 2z - 3)$ 2) $(8c^2 - 4c + 1) + (-3c^2 + c + 5)$ 3) $(10b^2 - 3b + 2) - (4b^2 + 5b + 1)$

4) $(-4m^2 + 3m - 1) - (m + 2)$ 5) $(3m + 4) - (2m^2 - 6m + 5) + (m - 2m^2)$ 6) $(6x - 13) - (x^3 - 4x) + 3x^2$

7) $3x^3(x - 7)$ 8) $-x(7x^2 - 12x + 85)$ 9) $6x(9x - 11)$

10) $-9y^4(4y^2 - 2y)$ 11) $8h(h^2 - 3h - 5)$ 12) $(3x - 7)12x$

For #13 – 16: Use the following: $h(x) = 3x^2 + 5x - 2$, $g(x) = -x^2 - 7x - 5$, $k(x) = -2x^5$

13) Find $f(x) = h(x) + g(x)$. 14) Find $b(x) = h(x) - g(x)$.

15) Find $a(x) = k(x) \cdot g(x)$ 16) Find $d(x) = k(x) \cdot h(x)$

17) Simplify: $\frac{1}{4}x^3(12xy^5 - 16y^2 + 20xy)$

8.1 Self-Reflection

A) Look at the topics below. What is your level of understanding at this time?

Topic	Select one option below.		
	I can help others with this	I understand most of this but get a bit confused.	I need help on this topic.
Combining like terms to add polynomials			
Distributing a negative to subtract polynomials			
Using the distributive property with polynomials			

B) What is one goal for this unit? Consider selecting a behavior goal (attending each class, doing all assignments) or a performance goal (getting a certain score on the test).

For # 1 – 10, simplify each expression to find the product.

1) $(3x + 1)(2x - 5)$

2) $(2y + 3)(y - 5)$

3) $(6a - 3)(4a - 1)$

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

5) $(2x - 3)(x - 8)$

6) $(x - 4)(x + 9)$

7) $(p + 2)(3p^2 + 1)$

8) $(3d + 10)(2d - 1)$

9) $(n + 1)(n^2 + 4n + 5)$

10) $(w - 3)(w^2 + 8w + 1)$

For #11-13, simplify if $f(x) = (3x - 1)$ and $g(x) = (2x + 4)$

11) $h(x) = f(x) \cdot g(x)$

12) $h(x) = f(x) + g(x)$

13) $h(x) = f(x) - g(x)$

14) Simplify: $a(3a + 1) + (a + 1)(a - 1)$

8.2 Worksheet, Continued.

For #15 – 20, simplify each expression.

15) $(x - 9)^2$

16) $(m + 11)^2$

17) $(5x + 2)^2$

18) $2(4p - 5)^2$

19) $(2x - y)^2 + 5$

20) $(a - 8)(a + 8)$

Bonus: Simplify $-4(x + 3)^2 + 5$

8.2 Self-Reflection:

A) What did you understand well from the 8.2 lesson?

B) What do you need additional clarification from on the 8.2 lesson?

C) What resources can you use to get the help you need to be successful in this class?

For #1 – 9, factor out the Greatest Common Factor (GCF).

1) $10x - 10y$

2) $8x^2 + 20y$

3) $4x^2 - 4x$

4) $2m^2 + 6mn$

5) $9a^5 + a^3$

6) $6w^3 - 14w^2$

7) $-11x^3y + 33xy - 44xy^2$

8) $5a^2b^2 - 9cd + 15a$

9) $18xy - 24xz + 21z$

10) One factor of $42ab^2 - 48ab$ is $(7b - 8)$. What is the other factor?

- A) $6ab^2$ B) $7ab$ C) $6ab$ D) $7b^2$

For #11 – 13, find each product. Try to do these without showing work, if possible!

11) $(x + 3)(x + 4)$

12) $(x - 6)(x + 6)$

13) $(4a + 9)(a - 2)$

14) **Multiple Choice:** What is the factored form of $-3x^3 + 5x^2 - 18x$, by factoring out the GCF?

- A) $-(3x^3 - 5x^2 + 18x)$
B) $x(-3x^2 + 5x - 18)$
C) $-x(3x^2 - 5x + 18)$
D) none of these; there is not a GCF for this expression

For #15 – 17, factor out the GCF from each expression.

15) $-15xy + 10xy^2$

16) $-12a^2 + 3a$

17) $-2x^2 + 10x - 18$

8.3 Reflection

A) What level of frustration did you experience while doing this assignment?

0 1 2 3 4
No frustration A small amount of frustration Frustrated half the time Frustrated most the time Frustrated all of the time

B) How confident were you on each of the following portions of the assignment? Use the scale below.

0 1 2 3 4
Not confident Slightly confident Confident half the time Confident most the time Confident all of the time

Portion	Confidence Scale Value
Identifying the GCF of an expression	
Determining what is inside the parenthesis when factoring with the GCF	
Writing the final answer when factoring with the GCF	

C) This assignment had a few problems that reviewed 8.2 concepts (questions 11 – 13). How are you doing at multiplying binomials? Are you able to do this without work, or do you need to show all steps to be successful?

CR Algebra 1**8.4 Worksheet**

Name _____

For #1 – 21, factor each expression.

1) $x^2 + 8x + 7$

2) $k^2 - 7k + 10$

3) $w^2 - 12w - 13$

4) $x^2 - 81$

5) $y^2 - 4y - 45$

6) $x^2 - 6x + 9$

7) $x^2 + 2x - 15$

8) $y^2 - 5y - 24$

9) $x^2 - 13x + 30$

10) $x^2 + 10x + 25$

11) $x^2 - 49y^2$

12) $x^2 - 25$

13) $x^2 - 2x + 1$

14) $x^2 + 12x + 36$

15) $x^6 - 64b^2$

16) $x^2 - 16x + 64$

17) $x^2 + x - 42$

18) $x^2 - 10x + 9$

19) $x^2 + x - 30$

20) $b^{10} - 1$

21) $h^2 + 4$

8.4 Self-Reflection is on the next page.

8.4 Reflection

A) **How much do you agree with this statement?** I showed persistence on this assignment, because I tried the problems that were hard for me, and I gave my best effort even when it was challenging.

- 1) strongly disagree 2) disagree 3) agree 4) strongly agree

B) **How much do you agree with this statement?** When I felt frustrated on this assignment, I was able to calm myself down and then focus on trying the problems.

- 1) strongly disagree 2) disagree 3) agree 4) strongly agree

C) **How much do you agree with this statement?** When I needed help on this assignment, I used **appropriate** resources (such as my notes, watching a video, getting help from others) to try to understand the material.

- 1) strongly disagree 2) disagree 3) agree 4) strongly agree

D) Are you proud of your effort on this assignment? Why or why not?

CR Algebra 1**8.5 Worksheet**

Name _____

For #1 – 18, factor each expression.

1) $2y^2 + 13y + 15$

2) $3a^2 - 13a + 4$

3) $c^2 - 11cd + 18d^2$

4) $5n^2 - 13n - 6$

5) $25x^2 - y^2$

6) $16x^2 - 49$

7) $x^2 - 121b^{10}$

8) $6x^2 + 19x + 3$

9) $3x^2 - 2x - 8$

10) $4x^2 - xy - 5y^2$

11) $12x^2 - x - 6$

12) $3x^2 + 15x$

13) $x^8 - 4$

14) $7x^2 + 19x - 6$

15) $b^2 - 18b + 45$

16) $-6x^2 - 18xy$

17) $15x^2 - 14x + 3$

18) $25 - 16g^2$

8.5 Self-Reflection is on the next page.

8.5 Self-Reflection:

A) What level of frustration did you experience while doing this assignment?

0 1 2 3 4
No frustration A small amount of frustration Frustrated half the time Frustrated most the time Frustrated all of the time

B) Answer the questions below.

Did you use any resources on this assignment to help you be successful?	
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List the resources you used, if any. Some options can include referencing your notes, using a calculator, asking a friend or family member for help, or finding a video on the internet to help you.

C) Are you proud of your effort on this assignment? Why or why not?

D) List a goal for your next assignment.

CR Algebra 1**8.6 Worksheet**

Name _____

For #1 – 15, factor each polynomial completely.

1) $2x^2 - 162$

2) $5a^6 - 20$

3) $-3x^3 + 27x$

4) $3a^2 + 24a + 45$

5) $2z^2 - 14z + 12$

6) $n^3 - 8n^2 - 20n$

7) $-18a^3 - 12a^2 - 2a$

8) $25w^2 - 20w + 4$

9) $5a^2 - 80b^{12}$

10) $-6x^2 + 4x^4$

11) $-a^2 - 10ab - 24b^2$

12) $8x^3 - 44x^2 + 20x$

13) $12b^2 - 27$

14) $-3x^8 + 75y^6$

15) $9h^2 + 25$

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16) Add: $(5x^3 - 7x + 12) + (6x^2 + 5x - 8)$

17) Multiply: $(3x + 5)^2$

18) Simplify: $-2x(-6x^2 + 3x) - (5x^2 - x - 1)$

8.6 Self-Reflection is on the next page.

8.6 Reflection:

- A) Look back over your notes for this unit. What are areas of strength that you understand well?

- B) Look back over your notes for this unit. What are topics that you need more support on?

- C) List at least two action steps that you will take to prepare for the test on this unit.

For # 1 – 10: Simplify each expression.

1) $(2a^2 + 4a - 3) + (3a + 6a^2 + 4)$

2) $(5x^4 + 5x^6 - 5) + (9x^6 + 7 - 3x^4)$

3) $(3z^3 + 2z^2 + 7) - (2z^3 - 3z^2 - 6)$

4) $(2x^2 - 7x) - (-4x^2 + 8) + (5x^3 - 4)$

5) $20x(3 - 2x)$

6) $3x^2(2x^2 - 5x - 3)$

7) $(x + 3)(x + 7)$

8) $(x + 11)(x - 11)$

9) $(x + 12)^2$

10) $-2(x + 3)^2 - 8$

For #11 – 16, factor each expression.

11) $7x^2 - 35x$

12) $-2b^2 + 10b$

13) $-xy^3 + 4xy^2 - 8xy$

14) $a^2 - a - 12$

15) $b^2 + 7b + 12$

16) $x^2 + 4x - 60$

Ch 8 Review Worksheet, continued.

For #17 – 22, factor each expression.

17) $4x^2 - 25$

18) $y^2 - 144$

19) $x^{10} - 16$

20) $g^2 + 2gh - 15h^2$

21) $4x^2 - 3x - 10$

22) $6x^2 + x - 5$

For #23 – 28, factor each expression completely.

23) $2x^2 + 16x + 32$

24) $-x^2 - 7x + 8$

25) $6a^2 - 24$

26) $-2a^2 + 5a + 3$

27) $y^3 + 12y^2 - 28y$

28) $6y^2 + 21y - 12$

29) Given that $f(x) = 3x - 2$ and $g(x) = 5x + 4$. Find $-3f(x) \cdot g(x)$.