

For #1 – 18: Simplify the expression. Evaluate numerical bases.

1) $x^2 \cdot x^5$

2) $y^3 \cdot y^3 \cdot y$

3) $(-5)^3 \cdot (-5)$

4) $(-8)^2$

5) -8^2

6) $3ab^2 \cdot 4a^2b^3$

7) $(-2)^2 \cdot (-2)^3$

8) $-2x^3y^2z \cdot 5xyz^8$

9) $8^5 \cdot 8^2$

10) $(-6)^6(-6)$

11) $-3^2 \cdot 3$

12) $(5g^2h)(3g^6h)$

13) $y^9 \cdot y$

14) $(-5)^3(a^8b^4)(-5ab^3)$

15) $2g^5 \cdot g^4 \cdot 3g$

16) $(-10)^2$

17) $-10^2 \cdot xy^3 \cdot 10x^4$

Almost done! Do the 6.1 Reflection on the back of this page!

6.1 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) What is a behavior goal that you have for this class? Consider behaviors that will support your learning.

C) Answer the questions below.

| | |
|---|--|
| Did you use any resources on this assignment to help you be successful? | |
| 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. | |

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

E) List a goal for your next assignment.

Directions: Simplify each expression. Evaluate numerical bases.

1) $\frac{3^9}{3^5}$

2) $\frac{y^{15}}{y^9}$

3) $\frac{6^3 \cdot 6^4}{6^5}$

4) $\frac{9^8}{9^6}$

5) $\frac{a^4}{a}$

6) $\frac{b^7}{b^{15}}$

7) $\frac{24w^9}{6w^5}$

8) $-\frac{2x^4}{16x^{10}}$

9) $\frac{25p^8}{10p^{14}}$

10) $\frac{10a^3}{2a}$

11) $\frac{64w^{10}}{-8w^{10}}$

12) $\frac{b^{11} \cdot b^2}{b^{15}}$

13) $\frac{10a^2b^{14}}{6a^3b^{10}}$

14) $\frac{-20x^5y}{-4x^7y^4}$

15) $5a^2b \cdot 3ab^{12}$

16) $\frac{3^5}{3^7}$

17) $-2g \cdot g^4 \cdot 6g^5$

18) $\frac{x^2y}{xy^2}$

19) $(-5)^4$

20) -5^4

Almost done! Do the 6.2 Reflection on the back of this page!

6.2 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?

E) List a goal for your next assignment.

For #1 – 18: Simplify the expression. Evaluate numerical bases.

1) $(3xy)^2$

2) $\left(\frac{-1}{x}\right)^3$

3) $(x^3y)^4$

4) $\left(\frac{2}{b^2}\right)^3$

5) $\left(\frac{y^5}{y^2}\right)^9$

6) $\frac{x^5y^4}{x^2y^8}$

7) $\frac{(-4)^9}{(-4)^6}$

8) $\left(\frac{j}{k}\right)^{11}$

9) $\left(\frac{-4}{x}\right)^2$

10) $\left(\frac{7}{8}\right)^2$

11) $\left(\frac{a^8}{ba^3}\right)^5$

12) $\left(\frac{-5}{2}\right)^3$

13) $(2x)^3$

14) $(2x^2y^3)^5$

15) $(a^4)^8$

16) $(hg^4)^3$

17) $(y^4)^6$

18) $-(5x)^2$

19) $(-8m^4)^2 \cdot m^3$

20) $(2y^5)^3(2y^2)^4$

21) Multiple Choice: Which expression is equivalent to $(-9)^6$?

a) $(-9)^2(-9)^3$

b) $(-9)(-9)^5$

c) $[(-9)^4]^2$

d) $[(-9)^3]^3$

Almost done! Do the 6.3 Reflection on the back of this page!

6.3 Reflection

A. How confident were you on this 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 |

B. How are you doing so far at being a persistent learner in this class? What are things that you are doing to support your learning? What are things you still need to work on?

C) **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

D) What are the types of problems that you are struggling with so far on this unit?

Simplify the expression. Write your answers without any zero or negative exponents, and evaluate numerical bases. No decimal answers (reduce any fraction answers.)

1) 5.231^0

2) x^{-2}

3) $\frac{1}{b^{-3}}$

4) $2(3)^0$

5) 7^{-3}

6) $5(7x^3)^0$

6) $(-4)^0$

8) 7^{-2}

9) $\frac{1}{6^{-2}}$

10) $\frac{a^5}{a^{-7}}$

11) $\frac{b^{-2}}{b^{11}}$

12) $\frac{a^3y^3}{a^{10}y^{-5}}$

13) $\frac{3x^2yz^{-3}}{6x^2y^{-4}z^5}$

14) 32^{-1}

15) $4a^{-3}$

16) $\frac{2}{xy^{-4}}$

17) $5x^2y \cdot 2xy^{-3}$

18: **Bonus:** $\frac{4b^{-14}d^2}{2^3b^{-5}d^{-7}}$

Almost done! Do the 6.4 Reflection on the back of this page!

6.4 Reflection

A. What is something you are proud of yourself for doing so far in this class?

B. What are you understanding well so far in this class?

C. What are you needing help with so far in this class?

D. What is one behavior that you can implement that will help you be more successful in this class?

For #1 – 13, solve each exponential equation.

1. $2^x = 16$

2. $3^x = 9$

3. $4^x = 64$

4. $125 = 5^x$

5. $32 = 2^x$

6. $2^{2x+5} = 2^7$

7. $6^{3x-4} = 36$

8. $5^{3x-12} = 125$

9. $10(4)^x = 160$

10. $\left(\frac{1}{2}\right)^x = 4^{2x+8}$

11. $36^{2x-7} = 6^{x-5}$

12. $\frac{1}{3}(6)^{3x} = 12$

13. $5^{3x-5} + 10 = 635$

14. $2^{x-8} + 30 = 62$

15) $\frac{1}{8} = 2^{5x-1}$

Almost done! Do the 6.5 Reflection on the back of this page!

6.5 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 |
|--|------------------------|
| Writing both sides of the equation with the same base. | |
| Use negative powers with fractional bases. | |
| Solving equations with variables on both sides. | |

C) Answer the questions below.

| | |
|---|--|
| Did you use any resources on this assignment to help you be successful? | |
| 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. | |

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

For #1 – 18, simplify each expression. Use only positive exponents and evaluate numerical bases.

1) $-4x^3y^2 \cdot 3xy^5$

2) $(-10)^2$

3) $x^3 \cdot x^4 \cdot x$

4) -10^2

5) $\frac{g^2}{g^7}$

6) $\frac{8a^7b}{2a^2b}$

7) $\frac{-3d^4f^2}{-9d^5f^3}$

8) $(5xy^4)^3$

9) $\left(\frac{4e}{3d}\right)^2$

10) $(y^8)^5$

11) $(w^2xy^3)^7$

12) $\left(\frac{11gh^2}{gh^5}\right)^2$

13) $(5x^3y^4)^0$

14) 3^{-2}

15) $\frac{3}{y^{-4}}$

16) $-11(8a^5b)^0$

17) $5b^{-4}$

18) $\frac{x^7}{x^{-3}}$

For #19 – 20: Simplify each expression. Use only positive exponents and evaluate numerical bases.

19) $\frac{x^{-2}y^5z^{-2}}{x^8y^{-2}z^{-6}}$

20) $(2x^5y^4)^3 \cdot 2xy$

For problems #21 – 26, solve the equation.

21) $4^x = 64$

22) $9^x = 81$

23) $7^{3x} = 7^{x+8}$

24) $\frac{1}{4}(4)^x = 4$

25) $49^{3x} = 7^{4x+8}$

26) $6^{3x-1} + 10 = 46$

Ch 6 Practice Test Reflection

A. What is one goal for your test on this unit?

B. What do you need help with before your task your test?