

ALBERTA DISTANCE LEARNING CENTRE
Mathematics 10C
MAT1791
Workbook 4.4

**Student's Questions
and Comments**

FOR STUDENT USE ONLY

Student Name:

FOR ADLC USE ONLY

Assigned to

Marked by

Date received

Summary

	Marks Earned	Total Possible Marks	Percent
4.4 Practice – IV	I have ____ /8 and ____ %.		
Lesson 4.4 Assignment		15	

Teacher's Comments:

Teacher's Signature

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Mathematics 10
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Practice Assessment

The *Practice* section provides exercise questions and allows you to self-reflect on your conceptual understanding of the *Lesson* skills. You will mark your *Practice* work in each *Workbook* according to the following rubric..

Category	Strategy and Procedures	Response to Questions
	<i>I have...</i>	<i>I have...</i>
4	<ul style="list-style-type: none"> used efficient and effective strategies to solve the problem(s) 	<ul style="list-style-type: none"> provided detailed explanations and followed directions appropriately to complete all questions
3	<ul style="list-style-type: none"> used effective strategies to solve the problem(s) 	<ul style="list-style-type: none"> provided clear explanations and followed directions adequately to complete most questions
2	<ul style="list-style-type: none"> used effective strategies inconsistently to solve the problem(s) 	<ul style="list-style-type: none"> provided incomplete explanations and followed some directions to complete a few questions
1	<ul style="list-style-type: none"> used ineffective strategies to solve the problem(s) 	<ul style="list-style-type: none"> provided incomplete explanations and have not followed directions to complete some questions

Complete *Practice* exercises using your best work, showing all relevant steps needed to arrive at your solution. Refer to the *Module* to review lesson instructions. Contact your teacher for assistance or clarification as needed, or to investigate the topic further.

Check and correct your work using the solutions provided in *Appendix* in the *Module*.

Practice is worth 8 marks.

After you have assessed your work, reflect on your understanding of the concepts in the table provided at the end of each *Practice* section.

Lesson 4.4: Exponent Laws

Complete the *Practice* below. When you have completed all the questions for *Lesson 4.4 Practice – IV* with your best work, mark your work by first comparing your answers to the solutions provided in the *Appendix*. Then, apply the rubric found at the beginning of the *Workbook*.

**Practice – IV**

1. Apply the exponent laws to simplify the following expressions.

a. $\frac{(2x^{12}y^2)(7x^{-4}y^7)}{(28x^2y)(xy^2)}$

b. $\left(\frac{5a^5b^{-6}}{6a^{-2}b^2}\right)^{-2}$

c. $(64a^{24}b^8)^{\frac{1}{2}}$

d. $\left(\frac{343}{216}\right)^{-\frac{2}{3}}$

e. $\left(\frac{1}{32}\right)^{-\frac{1}{5}}$

Mark your work for *Lesson 4.4 Practice – IV* using the solutions provided in the *Appendix*. Then, apply the rubric found at the beginning of the *Workbook*.

Transfer your self-assessed mark to the front cover of the *Workbook*.

My self-assessed mark on *Lesson 4.4 Practice – IV* is _____.

Reflect on your understanding of the concepts addressed in the *Practice* exercises in the table provided.

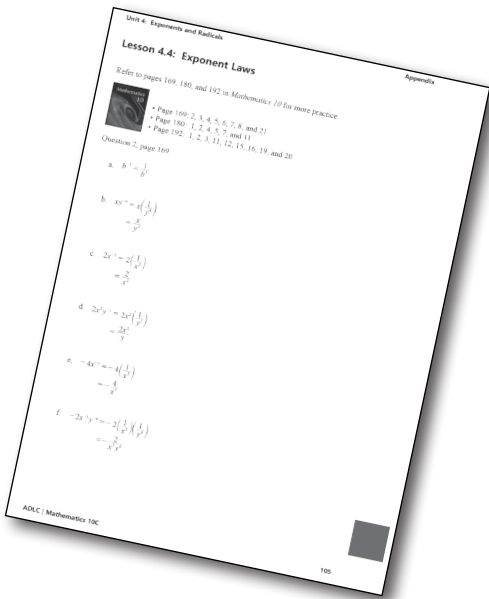
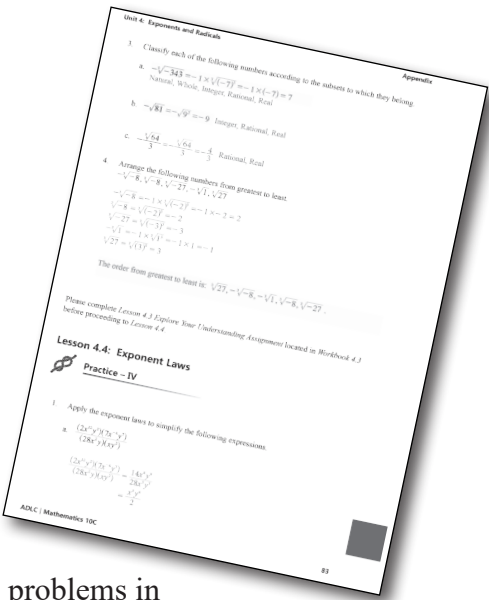
Question Number	Got it!	Almost there...	Need to retry or ask for help.
1			

You may proceed to *Explore Your Understanding Assignment* on the next page of this *Workbook*.

Note: Before you complete *Explore Your Understanding*, you may review your skills and get more practice by completing the following problems in *Mathematics 10*.

- Page 169, #2, 3, 4, 5, 6, 7, 8, and 21
- Page 180, #1, 2, 4, 5, 7, and 11
- Page 192, #1, 2, 3, 11, 12, 15, 16, 19, and 20

Check your work in *Enhance Your Understanding*.



Lesson 4.4: Exponent Laws**Explore Your Understanding Assignment**

- ② 1. a. Explain the role of the numerator and denominator of a rational exponent such as in the expression $\left(\frac{27x^3}{8y^9}\right)^{-\frac{5}{3}}$.

- ① b. What is the role of the negative in an exponent?

- ④ c. Evaluate $\left(\frac{27x^3}{8y^9}\right)^{-\frac{5}{3}}$.

2. Rewrite the expression as an equivalent power with a negative exponent.

① a. $\frac{1}{49}$

② b. $\frac{27}{125}$

① 3. Given that $3^{10} = 59\,049$, what is 3^{-10} expressed as an exact value?

4. John wants to have \$2 000 in 3 years. The current rate of return for a high interest savings account is 2.8%, compounded annually. The money, P dollars, that John must invest now is given by the formula $P_{\text{initial investment}} = 2\,000(1.028)^{-3}$, where the exponent of the power is the time, in years.

② a. How much must John invest now to have \$2 000 in 3 years?

② b. Assuming the interest rate remains consistent, how much money will John have in 5 years if he doesn't touch the investment after the initial 3 years? Hint: The original formula will have to change.

/15