ALBERTA DISTANCE LEARNING CENTRE
Mathematics 10C
MAT1791
Unit 4 Final Review Workbook

Student's Questions and Comments

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Summary

	Marks Earned	Total Possible Marks	Percent
Unit 4 Final Review Assignment		31	

Teacher's Comments:

_____

Teacher's Signature

REVISED February 2019

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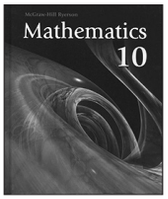

Mathematics 10

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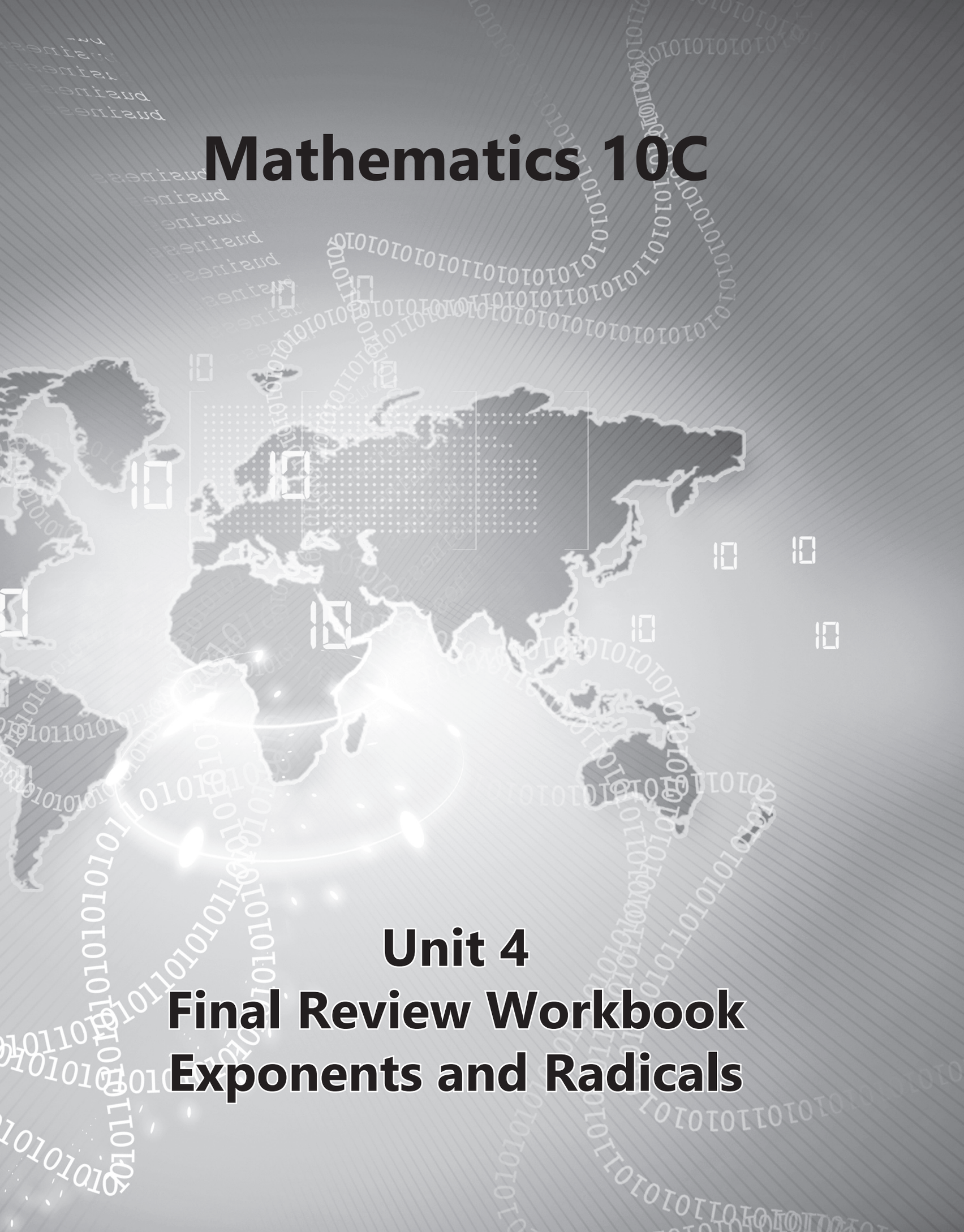
Mathematics 10C



Unit 4
Final Review Workbook
Exponents and Radicals

Unit 4: Exponents and Radicals Final Review Assignment

Final Review Assignment

(2) 1. a. A student says the prime factors of 17 are 1 and 17. Is the student correct? Explain.

(2) b. List all the prime numbers between 10 and 20. Explain why they are prime.

(3) 2. State the numbers that are neither prime, nor composite. Explain.

(3) 3. An orchard owner wants to plant 64 cherry tree seedlings and 96 peach tree seedlings in rows. Each row is to have the same number of each type of seedling. What is the greatest number of rows the owner can plant?

4. Shelby completes one lap of a go-cart track every 40 seconds. Laura completes one lap of the same track every 30 seconds. Suppose Shelby and Laura cross the starting line at the same time.

(3) a. How many seconds will pass before they cross the starting line at the same time again?

(1) b. How many laps will Shelby have completed in that time?

(1) c. How many laps will Laura have completed in that time?

5. Rewrite the following radicals in the indicated form.

(1) a. $\sqrt{128}$ as a mixed radical in simplest form.

(1) b. $7\sqrt[3]{2}$ as an entire radical.

(3) 6. Kate wants to build a fence around her garden to prevent rabbits from eating her vegetables. The rabbit fencing costs $7.50 per metre. How much will it cost to enclose a square garden with an area of 144 m^2?

(2) 7. Correct the Exponent Law and example provided below. Explain.

Product of Powers:
$a^n \cdot a^m = a^{n \times m}$
For example:
$x^3 \cdot x^6 = (x \cdot x \cdot x) \cdot (x \cdot x \cdot x \cdot x \cdot x \cdot x) = x^{18}$

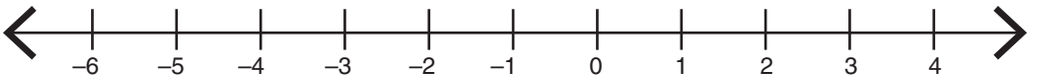
8. Rewrite the following expressions in the indicated form.

(1) a. $51^{\frac{4}{3}}$ as a radical

(1) b. $\sqrt[6]{\left(\frac{2}{3}\right)^2}$ as a power

(4) 9. Arrange the following numbers on the number line provided.

$4^{-\frac{3}{2}},\ \left(\frac{1}{27}\right)^{-\frac{1}{3}},\ -(16)^{\frac{1}{3}},\ 1^{-\frac{3}{2}},\ -(216)^{\frac{1}{3}},\ \left(\frac{1}{9}\right)^{\frac{1}{2}}$



(3) 10. The height, h, in metres, of an Oregon pine tree can be estimated using the formula $h = 35\sqrt[3]{d^2}$, where d is the diameter at the base, in metres. Determine the approximate height of an Oregon pine tree with a base radius of 2.3 m, to the nearest tenth of a metre.

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Unit 4: Exponents and Radicals

Unit Checkpoint

Use the *Check Point* to check and reflect before completing the *Test Your Understanding Quiz* for *Unit 4: Exponents and Radicals*.

I understand how to:

***Unit 4* Concepts**	Place a checkmark in the appropriate column		
	Yes	**No**	**Maybe**
Determine the prime factors of a Whole Number			
Explain why specific numbers have no prime factors			
Use strategies for determining the GCF and LCM of Whole Numbers			
Solve problems involving prime factors, GCF, LCM, square roots, or cube roots			
Use examples to explain the meaning of the index of a radical			
Determine whether a whole number is a perfect square, perfect cube, or neither			
Use strategies for determining the square root of a perfect square and the cube root of a perfect cube			
Express an entire radical as a mixed radical in simplest form and vice versa			
Sort Real Numbers according to the subsets Irrational, Rational, Integer, Whole, Natural			
Order Irrational Numbers on the number line			
Apply and explain the Exponent Laws, including Negative and Rational Exponent Laws			
Express powers with Rational exponents as radicals and vice versa			
Solve problems using Exponent Laws or radicals			

If you have any concerns from the *Check Point*, please refer to *Enhance Your Understanding* in the *Module* for designated practice questions and their solutions to help you improve your skills.

Contact your teacher for assistance and clarification as needed.

You have completed the *Lessons* and *Workbooks* for *Unit 4: Exponents and Radicals*. Please review all work in *Unit 4 Final Review Workbook* to ensure it is your best work. Submit *Unit 4 Final Review Workbook* for marking at this time.

Complete the *Test Your Understanding Quiz* when you have reviewed the feedback provided by your marker for *Workbooks 4.1, 4.2, 4.3, 4.4,* and *Unit 4 Final Review*.

After all required components of Units 1 to 4 have been completed, self-assessed, and returned to you with feedback, please review the concepts covered in all four units. Contact your teacher to discuss any concepts you are unsure about. When you are ready, contact your exam supervisor or your local ADLC office to schedule an appointment to write the Midterm Exam.

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