Practice Assessment

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

Category	Strategy and Procedures	Response to Questions
	I have…	*I have…*
4	• used efficient and effective strategies to solve the problem(s)	• provided detailed explanations and followed directions appropriately to complete all questions
3	• used effective strategies to solve the problem(s)	• provided clear explanations and followed directions adequately to complete most questions
2	• used effective strategies inconsistently to solve the problem(s)	• provided incomplete explanations and followed some directions to complete a few questions
1	• used ineffective strategies to solve the problem(s)	• 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 addressed in the *Practice* exercises in the table provided.

Lesson 4.3: The Irrational Number System

Complete the *Practice* below. When you have completed all the questions for *Lesson 4.3 Practice – III* 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 – III

1. What is the difference between Rational, Irrational, and Real Numbers?

2. Using benchmarks, what is the approximate value of $\sqrt[3]{2\,185}$?

3. Classify each of the following numbers according to the subsets to which they belong.

   a. $-\sqrt[3]{-343}$

   b. $-\sqrt{81}$

   c. $-\dfrac{\sqrt[3]{64}}{3}$

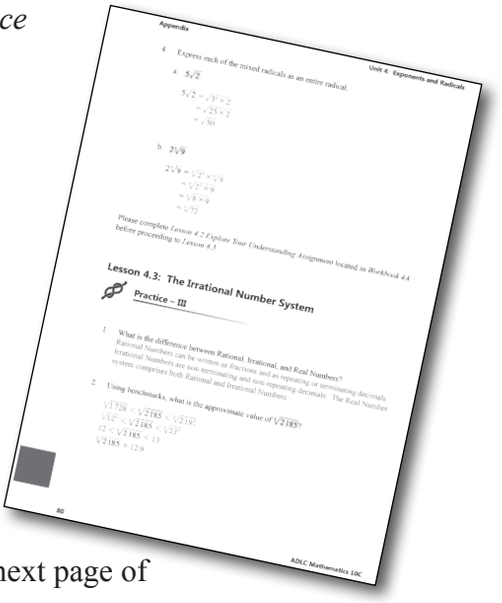
4. Arrange the following numbers from greatest to least.
$-\sqrt[3]{-8},\ \sqrt[3]{-8},\ \sqrt[3]{-27},\ -\sqrt[3]{1},\ \sqrt[3]{27}$

Mark your work for *Lesson 4.3 Practice – III* 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 4.3 Practice – III* is _____.

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


Appendix

Unit 4: Exponents and Radicals

4. Express each of the mixed radicals as an entire radical.

a. $5\sqrt{2}$

$5\sqrt{2} = \sqrt{5^2} \times 2$
$= \sqrt{25} \times 2$
$= \sqrt{50}$

b. $2\sqrt{9}$

$2\sqrt{9} = \sqrt{2^2} \times \sqrt{9}$
$= \sqrt{4} \times 9$
$= \sqrt{4 \times 9}$
$= \sqrt{72}$

Please complete *Lesson 4.2 Explore Your Understanding Assignment* located in *Workbook 4A* before proceeding to *Lesson 4.3*.

Lesson 4.3: The Irrational Number System

Practice – III

1. What is the difference between Rational, Irrational, and Real Numbers?
Rational Numbers can be written as fractions and as repeating or terminating decimals.
Irrational Numbers are non-terminating and non-repeating decimals. The Real Number system comprises both Rational and Irrational Numbers.

2. Using benchmarks, what is the approximate value of $\sqrt{2185}$?

$\sqrt{1728} < \sqrt{2185} < \sqrt{2197}$
$\sqrt{12^3} < \sqrt{2185} < \sqrt{13^3}$
$12 < \sqrt{2185} < 13$
$\sqrt{2185} \approx 12.9$

80

ADLC Mathematics 10C

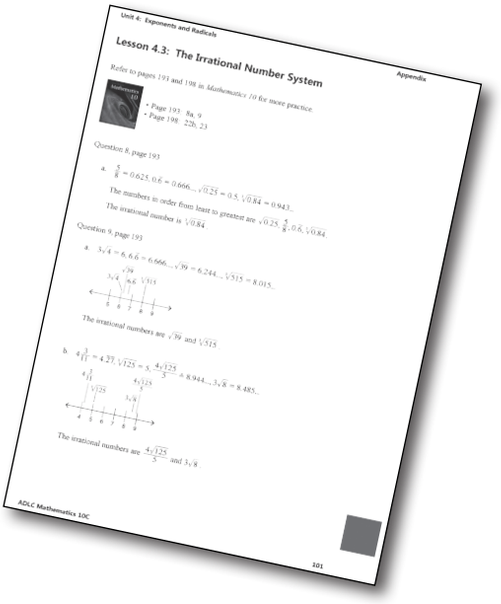
Question Number	Got it!	Almost there…	Need to retry or ask for help.
1			
2			
3			
4			

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 192, #8a and 9
- Page 198, #22b and 23

Check your work in *Enhance Your Understanding*.


Unit 4: Exponents and Radicals

Appendix

Lesson 4.3: The Irrational Number System

Refer to pages 191 and 198 in *Mathematics 10* for more practice.

- Page 193: 8a, 9
- Page 198: 22b, 23

Question 8, page 193

a. $\frac{5}{8} = 0.625$; $0.\overline{6} = 0.666\ldots$; $\sqrt{0.25} = 0.5$; $\sqrt{0.84} = 0.943\ldots$

The numbers in order from least to greatest are $\sqrt{0.25}, \frac{5}{8}, 0.\overline{6}, \sqrt{0.84}$.

The irrational number is $\sqrt{0.84}$.

Question 9, page 193

a. $3\sqrt{4} = 6$, $6.\overline{6} = 6.666\ldots$, $\sqrt{39} = 6.244\ldots$, $\sqrt{515} = 8.015\ldots$

The irrational numbers are $\sqrt{39}$ and $\sqrt{515}$.

b. $4\frac{2}{11} = 4.\overline{27}$, $\sqrt{125} = 5$, $\frac{4\sqrt{125}}{5} = 8.944\ldots$, $3\sqrt{8} = 8.485\ldots$

The irrational numbers are $\frac{4\sqrt{125}}{5}$ and $3\sqrt{8}$.

ADLC Mathematics 10C

101