# *Coach's Corner* Assessment

*Coach's Corner* provides practice and allows you to self-reflect on your conceptual understanding of the *Lesson* skills. Assessment of your work in *Coach's Corner* will be combined into two overall completion marks, one for *Workbook A* and one for *Workbook B*. Your work for *Coach's Corner* in each *Workbook* will be assessed according to the rubric provided.

| Category | Strategy and Procedures | Response to Questions |
|---|---|---|
| | *The student...* | *The student...* |
| **4** | • uses efficient and effective strategies to solve the problem(s) | • provides detailed explanations and follows directions appropriately to complete all questions |
| **3** | • uses effective strategies to solve the problem(s) | • provides clear explanations and follows directions adequately to complete most questions |
| **2** | • uses effective strategies inconsistently to solve the problem(s) | • provides incomplete explanations and follows some directions to complete a few questions |
| **1** | • does not use effective strategies to solve the problem(s) | • provides incomplete explanations and does not follow directions to complete some questions |

Complete *Coach's Corner* 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 *Equipment Room* in the *Module*.

*Coach's Corner* is worth 8 marks.

After you have assessed your work, reflect on your understanding of the concepts addressed in the *Coach's Corner* exercises in the table provided.

## Unit 1: Radicals Lesson 1.1

### Coach's Corner – I

1. Fill in the blanks.

| | | | |
|---|---|---|---|
| $\sqrt{1}$ | $= 1$ | $\sqrt{81}$ | |
| $\sqrt{\_\_\_\_}$ | $= 2$ | $\sqrt{\_\_\_\_}$ | $= 10$ |
| $\sqrt{9}$ | | $\sqrt{121}$ | |
| $\sqrt{\_\_\_\_}$ | $= 4$ | $\sqrt{\_\_\_\_}$ | |
| $\sqrt{\_\_\_\_}$ | $= 5$ | $\sqrt{\_\_\_\_}$ | |
| $\sqrt{\_\_\_\_}$ | | $\sqrt{\_\_\_\_}$ | |
| $\sqrt{49}$ | | $\sqrt{225}$ | |
| $\sqrt{\_\_\_\_}$ | $= 8$ | $\sqrt{\_\_\_\_}$ | |

These are the first 16 whole number **Principal Square Roots** of perfect squares.

2. Evaluate the following radicals and round to the nearest hundredth where needed.

   a. $\sqrt{3}$

   b. $\sqrt{1.483}$

   c. $\sqrt{0.00025}$

   d. $\sqrt{1600}$

3. Reorder the following radicals from least to greatest.

   $\sqrt{0.143}$ $\sqrt{3}$ $\sqrt{144}$ $\sqrt{625}$ $\sqrt{471}$ $\sqrt[3]{0.001}$

4. Simplify.

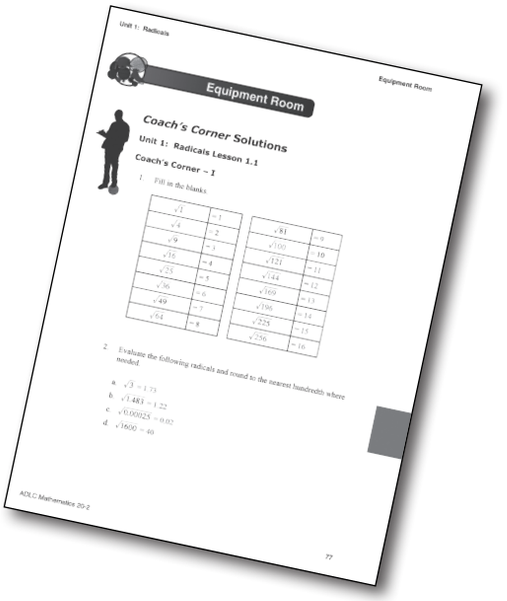
   a. $\sqrt[3]{27}$

   b. $\sqrt{289}$

5. Find the square root of 9.869604401. What is the result related to and how or where can it be used to help in math calculations? [**Hint**: circles]

Please go to the *Equipment Room* to check your solutions before returning to *Lesson 1.1*.

After you have assessed your work, reflect on your understanding of the concepts addressed in the *Coach's Corner* exercises in the table provided.


Unit 1: Radicals

Equipment Room

Equipment Room

Coach's Corner Solutions

Unit 1: Radicals Lesson 1.1

Coach's Corner – 1

1. Fill in the blanks

| | |
|---|---|
| $\sqrt{1}$ | $=1$ |
| $\sqrt{4}$ | $=2$ |
| $\sqrt{9}$ | $=3$ |
| $\sqrt{16}$ | $=4$ |
| $\sqrt{25}$ | $=5$ |
| $\sqrt{36}$ | $=6$ |
| $\sqrt{49}$ | $=7$ |
| $\sqrt{64}$ | $=8$ |

| | |
|---|---|
| $\sqrt{81}$ | $=9$ |
| $\sqrt{100}$ | $=10$ |
| $\sqrt{121}$ | $=11$ |
| $\sqrt{144}$ | $=12$ |
| $\sqrt{169}$ | $=13$ |
| $\sqrt{196}$ | $=14$ |
| $\sqrt{225}$ | $=15$ |
| $\sqrt{256}$ | $=16$ |

2. Evaluate the following radicals and round to the nearest hundredth where needed.

a. $\sqrt{3} = 1.73$

b. $\sqrt{1.483} = 1.22$

c. $\sqrt{0.00025} = 0.02$

d. $\sqrt{1600} = 40$

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| Question Number | Got it! | Almost there… | Need to retry or ask for help. |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

## Unit 1: Radicals Lesson 1.1

### Coach's Corner – II

1. Determine the prime factors for the numbers below using the prime factorization tree method. Show all steps.

   a. 405

   b. 2592

2. Express each of the following as a mixed radical in simplest form.

   a. $\sqrt{72}$

   b. $\sqrt[3]{81}$

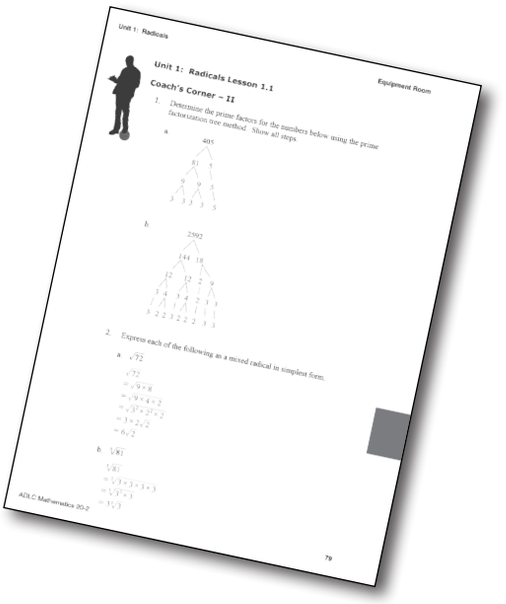
3. Express each of the following as an entire radical.

a. $3\sqrt[3]{2}$

b. $2\sqrt{5}$

c. $4\sqrt{8}$

Please go to the *Equipment Room* to check your solutions before proceeding to *Game On!* on the next page of this *Workbook*.


Unit 1: Radicals

Unit 1: Radicals Lesson 1.1 Equipment Room

Coach's Corner – II

1. Determine the prime factors for the numbers below using the prime factorization tree method. Show all steps.

a. 405

b. 2592

2. Express each of the following as a mixed radical in simplest form.

a. $\sqrt{72}$

$= \sqrt{9 \times 8}$

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

$= \sqrt{3^2 \times 2^2 \times 2}$

$= 3 \times 2 \times 2$

$= 6\sqrt{2}$

b. $\sqrt{81}$

$= \sqrt{3 \times 3 \times 3 \times 3}$

$= \sqrt{3^4 \times 1}$

$= 3\sqrt{3}$

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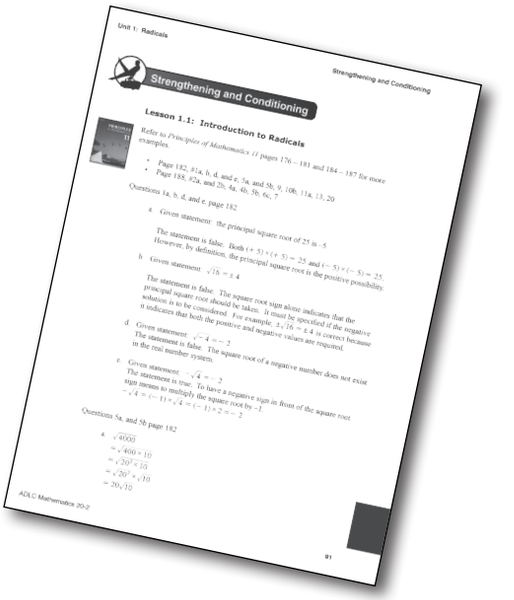
After you have assessed your work, reflect on your understanding of the concepts addressed in the *Coach's Corner* exercises in the table provided.

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

**Note**: Before you complete *Game On!*, you may review your skills and get more practice by completing the following problems in *Principles of Mathematics 11*.

- Page 182 #1a, b, d, e, 5a, b, d, 9, 10b, 11a, 13, 20
- Page 188 2a, 2b, 4a, 4b, 5b, 6c, 7

Check your work in *Strengthening and Conditioning*.


Unit 1: Radicals

Strengthening and Conditioning

Strengthening and Conditioning

Lesson 1.1: Introduction to Radicals

Refer to *Principles of Mathematics 11* pages 176 – 181 and 184 – 187 for more examples.

- Page 182, #1a, b, d, and e, 5a, and 5b, 9, 10b, 11a, 13, 20
- Page 188, #2a, and 2b, 4a, 4b, 5b, 6c, 7

Questions 1a, b, d, and e, page 182

a. Given statement: the principal square root of 25 is −5

The statement is false. Both $(+5) \times (+5) = 25$ and $(-5) \times (-5) = 25$. However, by definition, the principal square root is the positive possibility.

b. Given statement: $\sqrt{16} = \pm 4$

The statement is false. The square root sign alone indicates that the principal square root should be taken. It must be specified if the negative solution is to be considered. For example, $\pm\sqrt{16} = \pm 4$ is correct because it indicates that both the positive and negative values are required.

d. Given statement: $\sqrt{-4} = -2$

The statement is false. The square root of a negative number does not exist in the real number system.

e. Given statement: $-\sqrt{4} = -2$

The statement is true. To have a negative sign in front of the square root sign means to multiply the square root by −1.

$-\sqrt{4} = (-1) \times \sqrt{4} = (-1) \times 2 = -2$

Questions 5a, and 5b page 182

a. $\sqrt{4000}$

$= \sqrt{400 \times 10}$

$= \sqrt{20^2 \times 10}$

$= \sqrt{20^2} \times \sqrt{10}$

$= 20\sqrt{10}$

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