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; your mark can help you gauge your understanding of *Lesson* materials.

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

Lesson 2.3: Quadratic Functions Expressed in Standard Form

Complete the *Practice* below. When you have completed all the questions for *Lesson 2.3 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*.

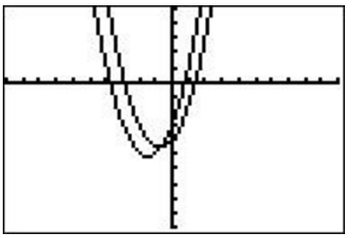
Practice – IV

1. Determine the zeros of the function $y = 24x^2 - 10x - 6$, by factoring. Check your answers.

2. Convert the function $f(x) = -2x^2 + 12x - 6$ to vertex form by completing the square.

3. Kyle converts the function $y = 2x^2 + 3x - 8$ into vertex form by completing the square. When verifying his solution on his graphing calculator, the two graphs do not lie on top of each other. Look through Kyle's steps and find his error(s). Then, fix his error(s) and give the correct solution.

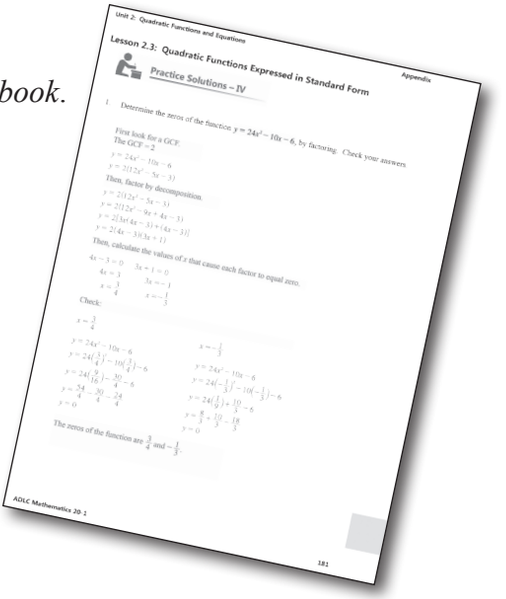
$$y = 2x^2 + 3x - 8$$
$$y = 2(x^2 + 3x) - 8$$
$$y = 2\left(x^2 + 3x + \left(\frac{3}{2}\right)^2 - \left(\frac{3}{2}\right)^2\right) - 8$$
$$y = 2\left(x^2 + 3x + \left(\frac{3}{2}\right)^2\right) - 8 - \left(\frac{3}{2}\right)^2$$
$$y = 2\left(x + \frac{3}{2}\right)^2 - \frac{32}{4} - \frac{9}{4}$$
$$y = 2\left(x + \frac{3}{2}\right)^2 - \frac{41}{4}$$



Mark your work for *Lesson 2.3 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 2.3 Practice – IV* is _____.


Unit 2: Quadratic Functions and Equations

Lesson 2.3: Quadratic Functions Expressed in Standard Form

Appendix

Practice Solutions – IV

1. Determine the zeros of the function $y = 24x^2 - 10x - 6$, by factoring. Check your answers.

First look for a GCF.
The GCF = 2

$y = 24x^2 - 10x - 6$
$y = 2(12x^2 - 5x - 3)$

Then, factor by decomposition.

$y = 2(12x^2 - 5x - 3)$
$y = 2(12x^2 - 9x + 4x - 3)$
$y = 2[3x(4x - 3) + (4x - 3)]$
$y = 2(4x - 3)(3x + 1)$

Then, calculate the values of x that cause each factor to equal zero.

$4x - 3 = 0$ $\quad$ $3x + 1 = 0$
$4x = 3$ $\quad$ $3x = -1$
$x = \frac{3}{4}$ $\quad$ $x = -\frac{1}{3}$

Check:

$x = \frac{3}{4}$

$y = 24x^2 - 10x - 6$
$y = 24\left(\frac{3}{4}\right)^2 - 10\left(\frac{3}{4}\right) - 6$
$y = 24\left(\frac{9}{16}\right) - \frac{30}{4} - 6$
$y = \frac{54}{4} - \frac{20}{4} - \frac{24}{4}$
$y = 0$

$x = -\frac{1}{3}$

$y = 24x^2 - 10x - 6$
$y = 24\left(-\frac{1}{3}\right)^2 - 10\left(-\frac{1}{3}\right) - 6$
$y = 24\left(\frac{1}{9}\right) + \frac{10}{3} - 6$
$y = \frac{8}{3} + \frac{10}{3} - \frac{18}{3}$
$y = 0$

The zeros of the function are $\frac{3}{4}$ and $-\frac{1}{3}$.

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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.	Similar questions from ***Pre-Calculus 11***
1				p. 175 #9, 11, 12
2				p. 193 #1ac, 2bd, 3, 4
3				p. 193 #8, 9, 12bc

Please return to *Lesson 2.3* to continue your work in *Unit 2: Quadratic Functions and Equations*.