



Unit 1: Radicals Lesson 1.2

Coach's Corner – V

Find the error(s) by circling them, explain the error, and show the steps to correct the error.

$ \begin{aligned} 1. \quad & \sqrt{24x} - 4\sqrt{6x} - 2\sqrt{294x} \\ &= 2\sqrt{6x} \oplus 4\sqrt{6x} - 2 \cdot \textcircled{49}\sqrt{6x} \\ &= 2\sqrt{6x} + 4\sqrt{6x} - 98\sqrt{6x} \\ &= -92\sqrt{6x} \text{ when } x \geq 0 \text{ and where } x \in \mathbb{R} \end{aligned} $	<p>Show steps to determine the correct answer.</p> $ \begin{aligned} &= 2\sqrt{6x} - 4\sqrt{6x} - 2\sqrt{7^2 \cdot 6x} \\ &= 2\sqrt{6x} - 4\sqrt{6x} - 14\sqrt{6x} \\ &= -16\sqrt{6x} \text{ when } x \geq 0, \text{ where } x \in \mathbb{R} \end{aligned} $
<p>Explain errors, if any.</p> <ul style="list-style-type: none"> • The second term should still be subtracted. • The square root of 49 should have been moved outside the radical sign. 	

$ \begin{aligned} 2. \quad & (6\sqrt{2x} - 3)^2 \\ &= (6\sqrt{2x} - 3)(6\sqrt{2x} - 3) \\ &= (6\sqrt{2x} \cdot 6\sqrt{2x}) + ((6\sqrt{2x}) \cdot (-3)) + ((-3) \cdot (6\sqrt{2x})) + ((-3) \cdot (-3)) \\ &= \textcircled{12}\sqrt{4x^2} + (-18\sqrt{2x}) + (-18\sqrt{2x}) + \textcircled{-9} \\ &= (12 \cdot 2\sqrt{x^2}) + (-36\sqrt{2x}) - 9 \\ &= 24\sqrt{\textcircled{x^2}} - 36\sqrt{2x} - 9 \text{ when } x \geq 0, \text{ where } x \in \mathbb{R} \end{aligned} $	
<p>Explain errors, if any.</p> <ul style="list-style-type: none"> • $6 \times 6 = 36$, not 12 • Negative \times Negative = Positive, $(-3) \cdot (-3) = 9$ • The square root of x^2 is x. 	
<p>Show steps to determine the correct answer.</p> $ \begin{aligned} &(6\sqrt{2x} - 3)(6\sqrt{2x} - 3) \\ &= (6\sqrt{2x} \cdot 6\sqrt{2x}) + ((6\sqrt{2x}) \cdot (-3)) + ((-3) \cdot (6\sqrt{2x})) + ((-3) \cdot (-3)) \\ &= (36\sqrt{4x^2}) + (-18\sqrt{2x}) + (-18\sqrt{2x}) + (9) \\ &= (36 \cdot 2x) + (-36\sqrt{2x}) + 9 \\ &= 72x - 36\sqrt{2x} + 9 \text{ when } x \geq 0, \text{ where } x \in \mathbb{R} \end{aligned} $	

Please complete the *Lesson 1.2 Game On!* located in *Workbook 1A* before proceeding to *Lesson 1.3*.