Applied Algebra

Student Update Sheet
for the Earlier Textbook Printing

This document contains the substantive revisions incorporated into the July 2026 reprint of *Applied Algebra*. Students using the earlier Kendall Hunt printing should make the following updates while working through the textbook.

Only substantive mathematical or instructional revisions are listed. Typographical and formatting corrections are omitted.

Textbook Page 6

Counting Numbers / Natural Numbers

Replace

> Another name for the counting numbers is natural numbers, with the same ambiguity about including or not 0 as a natural number.

with

> Another name for the counting numbers is natural numbers, and in this text we include 0 as a natural number.

Textbook Page 10

Absolute Value

Replace the margin note defining absolute value with

> The absolute value $|x|$ of a signed number x is its distance from zero on the number line; equivalently, it is that number without sign. For example, $|-3| = 3$.

Textbook Page 13

Multiplication Models

After the two multiplication examples, insert

> In the first example, the tree was abstract and the bird concrete; in the second example, the roles were reversed.

Textbook Page 18

Division by Zero

After the statement that $a \div 0$ is undefined when $a \neq 0$, insert

> For example, $3 \div 0$ is undefined.

Textbook Page 19

Order of Operations, Example

In the worked example, replace the Level 2 line

> $34 + 16 \div 4 - 19$

with

> $34 - 16 \div 4 + 19$.

The subsequent Level 1 computation remains $34 - 4 + 19$.

Textbook Page 26

Divisors and Zero

After Definition 0.14, insert the clarification

> Some textbooks require divisors to be nonzero. In this text, 0 is a divisor only of 0.

Textbook Page 62

Fractional Powers and Radicals

Before the radical notation for $b^{1/n}$, insert

> The fractional unit power $b^{1/n}$ is traditionally called the n-th root of b, written $\sqrt[n]{b}$.

Textbook Page 73

Unit 0 Summary: Powers and Radicals

Replace the description of integer powers with

> Generalizing the decimal-unit pattern to any base $b \neq 0$, we introduce the integer powers b^n as multiplications or divisions of 1 by b repeated $|n|$ times, where n is the exponent.

Also replace the statement that fractional powers "are often non-periodic decimal fractions" with

> Fractional powers are often represented by non-periodic decimal expansions, which are part of the real numbers.

Textbook Page 84

Area of a Parallelogram

In the triangle-congruence argument, replace

> $BF = CF$ as distances between parallel lines

with

> $BF = CE$ as distances between parallel lines.

Textbook Page 88

Prisms

Replace the end of Definition 0.41 with

> The segments joining each vertex of the base to its translated image are called the lateral edges of the prism.

Replace the description of a right prism with

> A right prism is a prism whose lateral edge is perpendicular to the base and thus, the altitude is equal to the extended distance. Equivalently, a right prism is a prism whose lateral faces are rectangles.

Example 0.88

Replace

> How many faces (including bases), sides (including edges), and vertices are in a cube and a triangular prism?

with

> How many faces (including bases), edges (where two faces meet), and vertices are in a cube and a triangular prism?

Accordingly, the conclusions should read: a cube has 6 faces, 12 edges, and 8 vertices; a triangular prism has 5 faces, 9 edges, and 6 vertices.

Textbook Page 106

Operations and Relations – Key Phrases

Insert the following translation in the table of verbal phrases and algebraic expressions:

> The ratio of a number to thirteen: $\frac{v}{13}$.

Textbook Page 129

Exercise P1.41

Replace

> She wants the length of the rectangular area to be four inches less than twice its length. If the length is 5 inches, what is the width?

with

> She wants the length of the rectangular area to be four inches less than twice its width. Find the dimensions of the rectangular area.

Textbook Page 138

Graphs of Discrete Variables

Replace

> Next we plot a few more data points as listed in Table 1.11 and connect all points by a dotted line to indicate that the variables are discrete (skipping values).

with

> Next we plot a few more data points as listed in Table 1.11 and connect them by a dotted line to indicate that the variables are discrete; only the plotted points belong to the graph.

Textbook Pages 171–172

Linear Function Tables

For the candle-height example, use the rate-of-change calculation

$$m = \frac{\Delta H}{\Delta t} = \frac{-3 \text{ cm}}{+2 \text{ hrs}} = \frac{-6 \text{ cm}}{+4 \text{ hrs}} = -1.5 \text{ cm per hour.}$$

In Table 2.18, the column labels should use the variables for the candle-height situation:

> t, $H(t)$, Δt, and ΔH,

not n, $P(n)$, Δn, and ΔP.

Textbook Page 184

Break-Even Point

Replace

> The s-intercept is $(57 \text{ shirts}, \$0)$ and it represents the break-even point.

with

> The s-intercept is $(57 \text{ shirts}, \$0)$, so 57 shirts must be sold to break even.

Textbook Page 221

Example 3.11: Exponential Decay

Replace

> The value of a car that cost \$24,500 decreases by a factor of 92.2% each year after its purchase.

with

> The value of a car that cost \$24,500 decreases to 92.2% of its value each year after its purchase.

Textbook Page 244

Real-World Domain of the Square-Garden Model

Replace the margin note

> Whether 0 is part of the real-world domain is questionable – some may prefer to exclude it.

with

> Whether 0 belongs to the real-world domain is debatable, but we choose to include it.