



180141 PHYSICS Student Text, Second Edition, © 2004

Corrections

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| <u>Page</u> | <u>Section</u> | <u>Correction</u> |
|-------------|----------------|---|
| 25 | Ch. 2 | In the bottom paragraph, the plus signs in the second line should be multiplication signs. The expression should read: $(24 \text{ h} \times 60 \text{ min/h} \times 60 \text{ s/min} = 86\,400 \text{ s})$. |
| 26 | Ch. 2 | In §2.7, the first paragraph, the reference to Chapter 5 should be to Chapter 6. |
| 76 | Ch. 4 | Revise the first sentence of section 4B to read “. . . often need to be added, subtracted, or multiplied.” Vector division is not a valid operation. |
| 102 | Ch. 5 | In the second line at the top of the Example problem, “ $g_x = 0 \text{ m/s}^2$.” |
| 117 | Ch. 6 | In Fig 6-7b, the velocity arrow associated with the refrigerator should be an acceleration arrow, using the standard vector arrow color and shape for acceleration. In the same figure, delete the negative sign and add a prime symbol to the right-hand force label. |
| 120 | Ch. 6 | In Example 6-2, under step 2 of the solution, the component calculations for F_{Ax} and F_{Ay} are incorrect. The magnitude of F_A should be “ $2.05 \times 10^6 \text{ N}$,” not “ $2.50 \times 10^6 \text{ N}$.” The component calculations are correct as is. |
| 120 | Ch. 6 | In Example 6-2, under step 3, the substituted value for F_{Bx} is incorrect. It should be “ $+0.4685 \times 10^6 \text{ N}$.” The lifting force and equilibrant calculations are also incorrect. The total lifting force should be “ $F_{\text{lift } x} = F_{\text{lift}} = +2.513 \times 10^6 \text{ N}$ or $+2.51 \times 10^6 \text{ N}$ ” and the equilibrant “ $F_w = -2.51 \times 10^6 \text{ N}$.” |
| 153 | Ch. 7 | The entire derivation of Kepler’s constant is inverted. It should be “ $K_E = \gamma^2/ua^3$.” Starting in the first paragraph, the proportionality is the square of the earth’s |

period/the cube of the earth's mean radius. This affects Equation 7.13: the second equation is inverted, as is the third set of equations.

- 158 Ch. 7 In Question # 13, transpose “tangential speed” and “centripetal force.”
- 169 Ch. 8 In Example 8-3, in the fifth display equation, the left side of the equation should be “ $m_1a_y + m_2a_y$.” The remaining solution is correct.
- 208 Ch. 9 In Example 9-11, the second line of the solution should read

$$\frac{1}{2}mv_0^2 + |mg|h_0 = \frac{1}{2}mv^2 + |mg|h$$
- 218 Ch. 10 In Example 10-1, third equation from the bottom, the value of v_A^2 should be “1.00 m²/s²” rather than “1.00 m/s.”
- 243 Ch. 11 In Fig 11-8, the label for the right-hand cart in the “before” diagram should read “ $v_{2 \text{ bfr}} = 0 \text{ m/s}$.”
- 332 Ch. 15 In Example 15.2 the initial temperature of the aluminum block should be “19.7 °C.” The temperature 20.0 °C does not produce the correct input of heat.
- 351 Ch. 16 In the caption of Fig. 16-7, the second “graph” should be “gas.”
- 439 Ch. 20 In two equations above Equation 20.8, the symbol “p” was accidentally substituted for the ellipsis symbol.
- 512 Ch. 23 The two equations in the first full paragraph are missing a time variable. They should be written:

$$E = E_{\max}\sin \omega t \text{ and}$$

$$B = B_{\max}\sin \omega t.$$
- 538 Ch. 24 In Example 24-7 in part b. of the solution, d_i in the second line should be “-45.0 cm,” not “-4.50 cm.” Also on the same line, the second “ d_i ” should be “ d_o .”
- 541 Ch. 24 In Example 24-9, in the calculation of the height of the second image (next to last equation in the example), the formula should read:

$$H_{12} = H_{11} \frac{d_{12}}{d_{o2}} = \dots$$
- 572 Ch. 26 In Example 26-2 the correct answer is “180 lm.”
- 654 Appendix A The definition of illuminance is incorrect. It should be “ $\text{lm}\cdot\text{m}^{-2} = \text{cd}\cdot\text{sr}\cdot\text{m}^{-2}$.”

- 668 Glossary Modify definition to read “**ampere (A)** The unit of current: A current of 1 A in each of two parallel wires separated by 1 meter will produce a force of 2×10^{-7} N per meter of length in each wire.”
- 668 Glossary Modify definition to read “**antiparticle** An elementary particle whose properties are identical to those of another particle in every respect except sign of the charge.”
- 668 Glossary Modify definition to read “**Balmer series** A series of wavelengths of light produced when an electron falls to the second energy level in an atom.”
- 669 Glossary Modify definition to read “**breeder reactor** A fission reactor for producing Pu-239 fuel. The reactor is packed with U-238 which is changed to Pu-239 via nuclear reactions. The reactor produces more fuel than it consumes.”
- 673 Glossary Modify definition to read “**heat capacity** The amount of energy per mole required to raise the temperature of an object one degree Celsius.”
- 675 Glossary Modify definition to read “**Lyman series** A series of wavelengths emitted when one electron falls to the first energy level in an atom.”
- 676 Glossary Modify definition to read “**mass defect** The difference between the sum of the masses of the particles from which a nucleus was formed and the actual mass of the nucleus.”