Updates for Knight *Physics for Scientists and Engineers* 1e

Changes to the text

p. 158, Example 6.3. In the equation for a_y, in the right column, the units should be m/s^2.

p. 222, Figure 8.25. The label under blocks should read $m_B > m_A$.

p. 271, 4th line after Eq. 7. v_sub_f should be v_sub_fy with an italic y. That is, it should be v_{fy}.

p. 606, Knowledge Structure IV. In the Energy Transformation figure, the two purple arrows on the right should point away from the box, not toward.

p. 828, Example 26.4. In the first line of the right column, change 0.010 cm to 0.010 m.

p. 742, Figure 23.48. Switch the labels "Radius R_1 of first surface" and "Radius R_2 of second surface".

p. 924, Example 29.13. In the last line, -6.2×10^{-19} J should be -6.2×10^{-16} J

p. 1234, Example 38.8. In the next-to-last line of the left column, change 3.8 eV to 38 eV. In the right column, change 3.8 to 38, 15.2 to 152, and 34.2 to 342. Delete the Assess step (last 2 lines).

p. 1373, "equation" 3 lines before from the bottom: "Biologically effective dose in rem" should be "Biologically equivalent dose in rem".

p. A-5, Appendix C. Under the entries for Sulfur, add a new last line. The new line entries are

36 35.967081 0.02 stable

Changes to end-of-chapter problems

1.30d	Change 1/44.4 to 44.4^{-1}.
6.4	The puck starts from the origin.
6.22	Change to: "A projectile's horizontal range on level ground is $R = v_0^2 \sin 2\theta / g$. At what launch angle or angles will the projectile land at half of its maximum possible range?"
6.26	Change "40° angle" to "40.0° angle." Change part (b) to: "Repeat the calculation of part (a) for angles of 42.5°, 45.0°, and 47.5°. Put all your results, including 40.0°, in a table. At what angle of release does she throw the farthest?"
7.5	Change 1.5×10^{11} km to 1.5×10^{11} m.
7.25	Change the wording to "A 3.0-cm-diameter crankshaft ..."
8.4	Change to "A mountain climber is using a massless rope …"
9.10	In the figure, the units on the horizontal axis should be "ms", not "s".
10.26	Change to: "A 50 g ball of clay traveling at speed v_0 hits and sticks ..."
12.59	In the 5th line and last line, change "increase" to "decrease".
12.70	In the demoninator of the last fraction on the last line, change 3.50×10^6 to 3.48×10^6.
12.72	Add the following. **Hint:** Use the binomial approximation. SOHO's distance from earth is very small in comparison with the earth's distance from the sun."
13.29	Change "5.0 s^{-1}" to "5.0 revolutions per s."
13.60	Change "Figure P13.35" to "Figure 13.35".
13.66	Change "Figure P13.34" to Figure 13.34."
15.2	Change to: "Containers A and B have equal volumes. Container A holds helium gas at 1.0 atm pressure and 0°C. Container B is completely filled with a liquid whose mass is 7000 times the mass of helium gas in container A. Identify the liquid in container B."
16.64	Change "and at room temperature..." to "and at 20°C..."
17.17	Change "at room temperature..." to "at 20°C..."
17.34.	Change to "An 11 kg bowling ball <u>at 0°C</u> is dropped …"

18.42 ... box contains 0.010 mol of nitrogen at ..."

19.34 Change W to W_s.

20.25 Change part (a) to "... of a sound wave in air with ..."

21.50 Change 70.8 cm to 70.9 cm.

23.55b Change "at angle θ_1..." to "at angle θ_c..."

25.64 Add "N/C" at the end of parts a, b, and c.

25.65 Add "N/C" at the end of parts a, b, and c.

26.28 Change wording at the end of 3rd line to "At this instant, what are (a) the force (magnitude and direction) and (b) the magnitude of the torque on the dipole?"

26.68 In the first equation, 10^{-12} should be 10^{12}.

26.72 After part (b), add "**Hint:** $\ln(1 + u) \approx u$ if $u << 1$."

27.30 In the figure, "$\Phi = 2q/\varepsilon_0$" should be "$\Phi = -2q/\varepsilon_0$".

27.35 Change wording at the start to "An initially neutral conductor contains ..."

27.46 Change the last sentence to "Find the electric fields $\vec{E}_1$ to $\vec{E}_4$ in regions 1 to 4."

28.49 Change the first words to "What is the electron drift speed at the 3.0-mm-diameter end ..."

29.50 Change "–10 nC" to "10 nC".

29.67 After the first sentence, add "The positive charges are located at $y = \pm s$."

30.54 In second line, change 125 μC to 12.5 nC.

31.70 Change the "4 Ω" label that is on the right side of the middle branch to "5 Ω".

32.15. In the figure, the upper circle with a dot in it should be centered on y = + 1 cm.

32.32. Add a sentence to the text in parentheses to read "(For this problem, assume that all the data you need are good to six significant figures. Although N_2^+ …"

32.70. Change the wording at the very end to be "… note there the comment about accuracy and significant figures."

35.5 $\mathcal{E}_{rms}$ should be $\mathcal{E}_0$.

35.7 Change "... produces an rms voltage ..." to "... produces a peak voltage ..."

33.8 The magnetic field value shown in the figure should be 0.10 T.

35.17 Change "... produces an rms voltage ..." to "... produces a peak voltage ..."

35.59 Second line, change 200 μF to 200 μH.

35.60 In the last sentence of part (b), change "maximum" to "minimum."

37.36 In part (a), change 13.90 to 13.89

37.47 In part (b), change the end to read: "A falling drop quickly reaches a constant speed, called the terminal speed. Write an equation for the terminal speed v_{term} in terms of m, g, and b."

38.11 Change 2.0 V to 1.93 V.

38.38 Delete part (d).

39.22 In the first sentence, delete "... the middle of ..."

40.1 Change wording to: An electron in a box absorbs light. The longest wavelength in the absorption spectrum is 600 nm. How long is the box?

41.60 Add the following: **Hint:** This problem requires a numerical solution."

42.66 Change the 2nd sentence to read: One of the nuclei in the decay series of ^{238}U is the radon isotope ^{222}Rn, which decays by emiting a 5.50 MeV alpha particle with $t_{1/2}$ = 3.82 days.

42.70 Delete the last sentence in part (b).