

## ERRATA in 1st printing of UNIT R

- Page ii, table RA.1, SI equivalent for energy in terms of speed: change  $m$  in numerator to  $mc^2$ .
- Page 3, first line below the formula box: change “equation R1.3 to “equation R1.4”.
- Page 10, third line: change “but principle” to “but in principle”.
- Page 11, lowest sidebar: change “Newtonian to clock” to “Newtonian approach to clock”.
- Page 25, third line of footnote: change “each other (as read)” to “each other at  $t = 0$  (as read)”.
- Page 30, sixth line of caption for figure R2.5a: change “black dots” to “blue dots”.
- Page 32, definition of coordinate time: change “two events either” to “two events is the difference in their times as registered by either”.
- Page 35, last line: change “conventionally to orient” to “conventionally orient”.
- Page 36, first line: change “axes point north and east” to “axes point east and north”.
- Page 42, answers to exercises: change “R2.6” (the number of the second exercise answer) to “R2X.2”.
- Page 61, caption to figure R3.13: change “problem R3B.1” to “problem R3B.3”.
- Page 69, caption to figure R4.2, first and second line: delete “of the motion of”
- Page 70, 7th line below the box: change “reference frame.” to “reference frame).”
- Page 74, example R4.3, 6th line of the solution: change “equation R4.6” to “equation R4.7”.
- Page 83, problem R4M.3, part (d), first line: change “Chris and Dylan” to “Cara and Dave”.
- Page 86, summary for section R5.3, last line: change “ $\gamma = (1 - \beta^2)^{1/2}$ ” to “ $\gamma = (1 - \beta^2)^{-1/2}$ ”.
- Page 89, 2nd paragraph of section R5.2, 2nd line: change “and axes” to “and  $t'$  axes”.
- Page 90, equation R5.2, after the second “=”: change “ $t^2 - (\beta t^2)$ ” to “ $t^2 - (\beta t)^2$ ” (that is, move the exponent outside of the parentheses).
- Page 91, figure R5.4b: the  $x$  axis should look like the  $x$  axis in figure R5.4c (the first and third marks should be eliminated and the second and fourth marks should be labeled “1” and “2” respectively).
- Page 96, 7th line under the exercise: change “principle of relativity the” to “principle of relativity: the”.
- Page 119, paragraph before the exercise, 2nd line: change “R7A.1” to “R6A.1”.
- Page 120, problem R6T.6, last line: change “ $L_2$ ” to “ $L_0$ ”.
- Page 122, problem R6R.1, part (a), change “intention of  $O'$  above” to “intention of  $O$  above”.
- Page 129, figure R7.3, change the label “parallel to  $t'$  axis” to “parallel to  $x'$  axis”.
- Page 150, equation R8.10a: before the final equals sign, change the square root in the denominator so that it does not extend over the  $dt$  (the  $dt$  should be outside the square root in the denominator).
- Page 154, equation R8.22b: the last term should be  $\gamma(p_{1x} + p_{2x} - p_{3x} - p_{4x})$  not  $\gamma(p_{1t} + p_{2t} - p_{3t} - p_{4t})$ .
- Page 158, problem R8B.5, second line: should be  $v_x = \frac{4}{13}$ , not  $v_x = \frac{4}{15}$ .
- Page 166, equation R9.3: change the middle “+” to an “=” (that is, the sum of the first two column vectors should be equal to the sum of the third and fourth column vectors).
- Page 178, problem R9M.12, second line: change “ $\pi^-$  muon” to “ $\mu^-$  muon”.
- Page 183, table RA.1, line for “energy in terms of speed,” last column: change  $m$  in the numerator to  $mc^2$ .
- Page 194 (Short Answers to Selected Problems), answer to R2B.3b: change “2.2 g.” to “ $|\vec{p}| = 2.2 \text{ g.}$ ”.
- Page 194, answer to R2B.7(a): change “Yes” to “Outside (assuming that Neptune’s orbit defines the boundary)”.
- Page 194, answer to R3M.9: change “4.41 y” to “8.82 y”.
- Page 194, answer to R4M.7b: change “1.4 m” to “12.3 min”.
- Page 194, answer to R5B7: remove the primes.
- Page 194, answer to R8B.11: change “ $p_t = 37/3 \text{ kg}, p_x = 35/3 \text{ kg}$ ” to “ $p_t = 17/2 \text{ kg}, p_x = 15/2 \text{ kg}$ ”.
- Page 194, answer to R8R.3b: change “47  $\mu\text{m}$ ” to “4.7 m”.
- Page 194, answer to R9B.1: change “20 kg” to “8 kg”.

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