Errata in the fifth edition of
No Bullshit Guide to Math & Physics

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Mistakes to be fixed in v5.5

- **P5.55** The correct answer for the second part is $\frac{d^2r}{dx^2} + \frac{d^2r}{dy^2} + \frac{d^2r}{dz^2} = \frac{2}{r}$ and not $\frac{3}{r}$.
- The answers and solutions to the exercises from Chapter 2 and Chapter 3 were missing from Appendix A. Here are one-stop-shop screenshots the missing pieces:

Chapter 2 solutions

Answers to exercises

E2.1 a) $t_f = 20$[s], $d = 1400$[m]; **b)** $t_f = 10$[s], $d = 800$[m].

Solutions to selected exercises

E2.1 We can find t_f from the UAM velocity equation $v_f = 100 = 5(t_f) + v_i$. We can then compute the total distance travelled using the UAM position equation: $d = x(t_f) = 0 + v_i t_f + \frac{1}{2} a t_f^2$.

Chapter 3 solutions

Answers to exercises

E3.1 a) $(4, 0)$. **b)** $(-2, -3)$. **c)** $(7, 3)$. **E3.2 a)** $\vec{v}_1 = (5\sqrt{3}, 5) = (8.66, 5)$. **b)** $\vec{v}_2 = (0, -12)$. **c)** $\vec{v}_3 = (-2.95, 0.52)$. **E3.3 a)** $\vec{u}_1 = 4\angle 0°$. **b)** $\vec{u}_2 = \sqrt{2}\angle 45°$. **c)** $\vec{u}_3 = \sqrt{10}\angle 108.43°$.

Mistakes fixed in v5.4

- **P4.40** The formula for determining Tarzan's initial velocity is correct, but the numeric answer should be $v = 6.345$[m/s] and not $v = 4.48$[m/s] as given. With this new value of the initial velocity, the total distance travelled becomes $x_f = 2.85$[m].
- **P4.41** The formula for $y(x)$ given in the answer key and the solution were wrong. The correct answer is $y(x) = \ell \sin\Big(\theta_{\max} \cos\big(\omega \frac{x}{v}\big)\Big) = \ell \sin\Big(\theta_{\max} \cos\big(\frac{\sqrt{g}}{\sqrt{\ell} v} x\big)\Big)$.

Mistakes fixed in v5.3

- **E1.16** The correct calculation is $\log(z) - \log(2z) = -\log(2)$, not $-\log(z)$. Instead of changing the answer I changed the question to match the answer: $\log(z) - \log(z^2) = -\log(z)$.

Mistakes fixed in v5.2

- Page 337, formula for integral of $\frac{1}{(x-\beta)^m}$ is $\frac{-1}{(m-1)(x-\beta)^{m-1}}$, not $\frac{1-m}{(x-\beta)^{m-1}}$.
- Page 337, formula for the integral of $\frac{1}{a}\int\frac{1}{y^2+k}\,dy$ is $\frac{1}{a\sqrt{k}}\tan^{-1}\left(\frac{y}{\sqrt{k}}\right)$, not $\frac{\sqrt{k}}{a}\tan^{-1}\left(\frac{y}{\sqrt{k}}\right)$.

Mistakes fixed in v5.1

- **P1.41**: Both calculations should use the radius instead of the diameter.
- **P1.44**: Answer should be $4\sin 40 + \frac{1}{4}(2\pi(0.5)) + 4\cos 40 + 2 = 8.42$[m].
- **P1.47**: Answer should be $180 - 40 = 140$ degrees.
- **P1.51**: Question describes the water tank with dimensions $12 \times 6 \times 3$, but the solution uses $15 \times 6 \times 5$. The question was changed to match the existing solution: the water tank now has length 15[m] and height 5[m].
- **P2.9** part (3). v_f should be 6[m/s], not 10[m/s].
- **P2.10** part 4. Distance should be 13[m] not 14[m].
- Page 202, revolution of the Earth example. v_t should be 328.32[m/s] not 464.32[m/s], giving a final answer of 1181.95[km/h] not 1671.56[km/h].
- Page 264, section 5.5 Limit formulas. Removed formulas $\lim_{x\to 0}\frac{\ln(x+a)}{x} = a$, and $\lim_{x\to 0}\left(a^{1/x}-1\right) = \ln(a)$.
- Page 286. Should be "Consider the point $P = (x_P, y_P)$ that lies on the circle $x^2 + y^2 = R^2$" with R^2 instead of just R.
- Page 401. Conversion for inches is 1[in] = 2.54[cm], not 1[T] = 1000[kg].

Please let me know if you find any other mistakes: `ivan@minireference.com`.