

CORRECTIONS TO
Riemannian Manifolds: An Introduction to Curvature
(draft second edition)

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DECEMBER 10, 2007

(10/4/07) **Page 11, last displayed equation:** Change $g(X, X)$ to $\langle X, X \rangle$.

(10/17/07) **Page 14, first line of the last paragraph:** Add a comma after *Euclidean metric*.

(10/4/07) **Page 15, third line after Exercise 2.6:** Change “metrics” to “metric.”

(10/19/07) **Page 17:** In the displayed formulas and just below them, change every instance of s to θ .

(11/6/07) **Page 18, first sentence:** Change the parametrization to $\gamma(t) = (\sin t, \cos t)$ for $0 < t < \pi$.

(10/17/07) **Page 23, second line from bottom:** Change “and” to “an.”

(10/4/07) **Page 25, two lines above equation (2.10):** Change (t, x^1, \dots, x^n) to (x^1, \dots, x^n, t) (for consistency with later computations).

(10/22/07) **Page 32, last sentence before Ex. 3.1:** Add missing right parenthesis.

(10/22/07) **Page 41, last line:** Delete “is.”

(10/22/07) **Page 42, Problem 3-3(a), first line:** Change \mathbb{C}^{n+1} to $\mathbb{C}^{n+1} \setminus \{0\}$.

(10/22/07) **Page 42, Problem 3-5:** Change “Exercise 2.9” to “Example 2.9.”

(10/17/07) **Page 52, second paragraph:** Replace the first sentence by the following: “Now to prove existence, we first define covariant derivatives of 1-forms by the following formula, which is equivalent to (a):

$$\nabla_X \omega(Y) = X(\omega(Y)) - \omega(\nabla_X Y).$$

Then we use (b) to define ∇ on all other tensor bundles.”

(10/22/07) **Page 54, first line below the section heading:** Change TM to M .

(10/29/07) **Page 86, Problem 5-3, first line:** Change “half-place” to “half-plane.”

(11/7/07) **Page 87, Problem 5-5(b):** Change the spherical coordinate parametrization to

$$X(\theta, \varphi) = (\sin \varphi \cos \theta, \sin \varphi \sin \theta, \cos \varphi).$$

(11/7/07) **Page 87, Problem 5-5(c):** Change V_p to $W_p = \partial/\partial\varphi|_p$.

(11/7/07) **Page 88, Problem 5-9, second line:** Delete spurious “to.”

(12/5/07) **Page 145, last paragraph:** Change \mathbf{R}^n to \mathbf{R}^{n+1} .

(12/5/07) **Page 154, Problem 8-3:** Change “submanifold” to “hypersurface.”

(12/5/07) **Page 195, Problem 10-4:** Insert the word “nonzero” before “parallel.”

(12/5/07) **Page 195, Problem 10-5:** Delete the word “proper.”

(12/10/07) **Page 195, Problem 10-5:** Add the hypothesis that no point is conjugate to $\gamma(a)$ along γ , including $\gamma(b)$.