



Performance



Accessibility



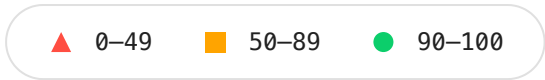
Best Practices



SEO



Progressive Web App



Performance

Metrics



■ First Contentful Paint	2.9 s	▲ Time to Interactive	17.0 s
▲ Speed Index	6.6 s	▲ Total Blocking Time	4,020 ms
▲ Largest Contentful Paint	12.2 s	● Cumulative Layout Shift	0.027

Values are estimated and may vary. The [performance score is calculated](#) directly from these metrics. [See calculator.](#)

[View Original Trace](#)



Opportunities — These suggestions can help your page load faster. They don't [directly affect](#) the Performance score.

Opportunity	Estimated Savings
■ Remove unused JavaScript	0.6 s

Diagnostics — More information about the performance of your application. These numbers don't [directly affect](#) the Performance score.

- ▲ Avoid an excessive DOM size — 4,816 elements
- ▲ Minimize main-thread work — 18.0 s
- ▲ Ensure text remains visible during webfont load

Warnings:

- Lighthouse was unable to automatically check the `font-display` value for the origin <https://fonts.gstatic.com>.

- Lighthouse was unable to automatically check the `font-display` value for the origin <https://c.disquscdn.com>.

▲ Reduce the impact of third-party code — Third-party code blocked the main thread for 360 ms	▼
▲ Some third-party resources can be lazy loaded with a facade — 1 facade alternative available	▼
▲ Serve static assets with an efficient cache policy — 25 resources found	▼
▲ Reduce JavaScript execution time — 5.1 s	▼
● Avoid chaining critical requests — 7 chains found	▼
● User Timing marks and measures — 5 user timings	▼
● Keep request counts low and transfer sizes small — 158 requests • 1,899 KiB	▼
● Largest Contentful Paint element — 1 element found	▼
● Avoid large layout shifts — 4 elements found	▼
● Avoid long main-thread tasks — 20 long tasks found	▼
● Avoid non-composited animations — 104 animated elements found	▼
Passed audits (22)	▼



Accessibility

These checks highlight opportunities to [improve the accessibility of your web app](#). Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

Names and labels — These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

▲ Buttons do not have an accessible name	▼
▲ <code><frame></code> or <code><iframe></code> elements do not have a title	▼
▲ Image elements do not have <code>[alt]</code> attributes	▼
▲ Form elements do not have associated labels	▼
▲ Links do not have a discernible name	▼

Contrast — These are opportunities to improve the legibility of your content.

▲ Background and foreground colors do not have a sufficient contrast ratio.	▼
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Internationalization and localization — These are opportunities to improve the interpretation of your content by users in different locales.

▲ `<html>` element does not have a `[lang]` attribute



Additional items to manually check (10) — These items address areas which an automated testing tool cannot cover.



Learn more in our guide on [conducting an accessibility review](#).

Passed audits (16)



Not applicable (21)



Best Practices

General

▲ Browser errors were logged to the console



▲ Issues were logged in the `Issues` panel in Chrome Devtools



Passed audits (15)



Not applicable (1)



SEO

These checks ensure that your page is optimized for search engine results ranking. There are additional factors Lighthouse does not check that may affect your search ranking. [Learn more](#).

Content Best Practices — Format your HTML in a way that enables crawlers to better understand your app's content.

▲ Image elements do not have `[alt]` attributes



Additional items to manually check (1) — Run these additional validators on your site to check additional SEO best practices.



Passed audits (11) ▼

Not applicable (2) ▼



Progressive Web App

These checks validate the aspects of a Progressive Web App. [Learn more.](#)

+ Installable

▲ Web app manifest or service worker do not meet the installability requirements — 1 reason ▼

★ PWA Optimized

▲ Does not register a service worker that controls page and `start_url` ▼

● Redirects HTTP traffic to HTTPS ▼

▲ Is not configured for a custom splash screen **Failures: No manifest was fetched.** ▼

▲ Does not set a theme color for the address bar.
Failures: No manifest was fetched, No `<meta name="theme-color">` tag found. ▼

▲ Content is not sized correctly for the viewport **The viewport size of 376px does not match the window size of 360px.** ▼

● Has a `<meta name="viewport">` tag with `width` or `initial-scale` ▼

● Provides a valid `apple-touch-icon` ▼

▲ Manifest doesn't have a maskable icon **No manifest was fetched** ▼

Additional items to manually check (3) — These checks are required by the baseline [PWA Checklist](#) but are not automatically checked by Lighthouse. They do not affect your score but it's important that you verify them manually. ▼

Runtime Settings

URL `https://3blue1brown.netlify.app/lessons/essence-of-calculus`

Fetch Time Jun 23, 2021, 12:54 AM EDT

Device Emulated Moto G4

Network throttling 150 ms TCP RTT, 1,638.4 Kbps throughput (Simulated)

CPU throttling	4x slowdown (Simulated)
Channel	devtools
User agent (host)	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/91.0.4472.106 Safari/537.36
User agent (network)	Mozilla/5.0 (Linux; Android 7.0; Moto G (4)) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/90.0.4420.0 Mobile Safari/537.36 Chrome-Lighthouse
CPU/Memory Power	686
Axe version	4.1.2

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