

# Looker Studio Formula Cheat Sheet

30+ ready-to-use calculated field formulas for marketing dashboards

## PERFORMANCE METRICS

Click-Through Rate (CTR)	$\text{Clicks} / \text{Impressions}$
Cost Per Click (CPC)	$\text{Cost} / \text{Clicks}$
Cost Per Mille (CPM)	$(\text{Cost} / \text{Impressions}) * 1000$
Conversion Rate	$\text{Conversions} / \text{Clicks}$
Cost Per Acquisition (CPA)	$\text{Cost} / \text{Conversions}$
Return on Ad Spend (ROAS)	$\text{Revenue} / \text{Cost}$
Cost Per Lead (CPL)	$\text{Cost} / \text{Leads}$

## REVENUE & ROI

Return on Investment (ROI)	$(\text{Revenue} - \text{Cost}) / \text{Cost}$
Average Order Value (AOV)	$\text{Revenue} / \text{Transactions}$
Revenue Per Click	$\text{Revenue} / \text{Clicks}$
Profit Margin	$(\text{Revenue} - \text{Cost}) / \text{Revenue}$
Customer Acq. Cost (CAC)	$\text{Marketing\_Cost} / \text{New\_Customers}$
LTV:CAC Ratio	$\text{Customer\_LTV} / \text{CAC}$

## ENGAGEMENT METRICS

Engagement Rate	$(\text{Likes} + \text{Comments} + \text{Shares}) / \text{Impressions}$
Bounce Rate (inverse)	$1 - \text{Bounce\_Rate}$
Pages Per Session	$\text{Pageviews} / \text{Sessions}$
Avg Session Duration (min)	$\text{Avg\_Session\_Duration} / 60$
Video View Rate	$\text{Video\_Views} / \text{Impressions}$
Share Rate	$\text{Shares} / \text{Impressions}$

## EMAIL METRICS

Open Rate	$\text{Opens} / \text{Delivered}$
Click-to-Open Rate (CTOR)	$\text{Clicks} / \text{Opens}$
Unsubscribe Rate	$\text{Unsubscribes} / \text{Delivered}$
Revenue Per Email	$\text{Revenue} / \text{Emails\_Sent}$
List Growth Rate	$(\text{New\_Subs} - \text{Unsubs}) / \text{Total\_List}$

## PERIOD-OVER-PERIOD

Month-over-Month Change	$(\text{Current\_Value} - \text{Previous\_Value}) / \text{Previous\_Value}$
MoM % formatted	$\text{CONCAT}(\text{ROUND}(((\text{Current} - \text{Previous}) / \text{Previous}) * 100, 1), "\%")$
Year-over-Year Change	$(\text{This\_Year} - \text{Last\_Year}) / \text{Last\_Year}$

## CONDITIONAL / CASE

Performance Status	$\text{CASE WHEN ROAS} \geq 4 \text{ THEN "Strong" WHEN ROAS} \geq 2 \text{ THEN "OK" ELSE "Review" END}$
Channel Grouping	$\text{CASE WHEN Source} = \text{"google"} \text{ THEN "Paid Search" WHEN Source} = \text{"facebook"} \text{ THEN "Social" ELSE "Other" END}$
Budget Pacing Alert	$\text{CASE WHEN Spend/Budget} > 0.9 \text{ THEN "Over" WHEN Spend/Budget} < 0.5 \text{ THEN "Under" ELSE "On Track" END}$

## QUICK REFERENCE — COMMON FUNCTIONS

### ROUND TO N DECIMALS

$\text{ROUND}(\text{Field}, N)$

### REPLACE TEXT

$\text{REGEXP\_REPLACE}(\text{Field}, \text{"old"}, \text{"new"})$

### DATE DIFFERENCE (DAYS)

$\text{DATE\_DIFF}(\text{End\_Date}, \text{Start\_Date})$

### LOWERCASE STRING

$\text{LOWER}(\text{Field})$

### CONCATENATE STRINGS

$\text{CONCAT}(A, \text{" "}, B)$

### IF NULL / FALLBACK

$\text{IFNULL}(\text{Field}, 0)$

### EXTRACT YEAR

$\text{YEAR}(\text{Date\_Field})$

### CONTAINS CHECK

$\text{CONTAINS\_TEXT}(\text{Field}, \text{"text"})$

### REGEX MATCH

$\text{REGEXP\_MATCH}(\text{Field}, \text{"pattern"})$

### CAST TO NUMBER

$\text{CAST}(\text{Field AS NUMBER})$

### LARGEST OF N FIELDS

$\text{NARY\_MAX}(A, B, C)$

### HYPERLINK OUTPUT

$\text{HYPERLINK}(\text{URL\_Field}, \text{Label})$

# Calculated Field Best Practices

Six tips to get the most out of Looker Studio formulas

**01**

## Always guard against division by zero

Wrap every division in a `CASE WHEN` to avoid breaking your dashboard when a filter returns zero rows.

```
CASE WHEN Clicks > 0 THEN Cost / Clicks ELSE 0 END
```

**02**

## Use REGEXP\_MATCH for flexible channel grouping

Instead of long chains of `CASE WHEN Source = "x"`, use regex patterns to match multiple values at once.

```
CASE WHEN REGEXP_MATCH(Source, "google|bing|yahoo") THEN "Paid Search" ELSE "Other" END
```

**03**

## Create calculated fields at the data-source level

Data-source-level calculated fields are reusable across all charts and pages. Chart-level fields are scoped to a single visualization. Always prefer data-source-level unless testing.

**04**

## Use NARY\_MAX / NARY\_MIN for multi-field comparisons

When comparing several metrics, `NARY_MAX(Field_A, Field_B, Field_C)` returns the largest value. It is much cleaner than nested `CASE WHEN` chains.

**05**

## Combine CONCAT + ROUND for display-ready percentages

Format numbers inline so stakeholders see clean values:

```
CONCAT(ROUND(Conversion_Rate * 100, 1), "%")
```

 outputs **3.2%** instead of a raw decimal.**06**

## Test with a Scorecard before adding to tables

Drop a Scorecard onto your canvas and assign the new calculated field. If the value looks correct, then add the field to complex charts. This saves time debugging aggregation issues in pivot tables.

## Your formulas are only as good as your data

Improvado automatically blends, normalizes, and delivers marketing data from 500+ platforms directly into Looker Studio — so every formula returns accurate, cross-channel results.

[Explore the Looker Studio Connector](#)