7.6 Promotion and digital measurement

Name: _____ Class: _____ Date: _____ **Total: 12 marks**

KEY WORDS conversion rate • customer acquisition cost

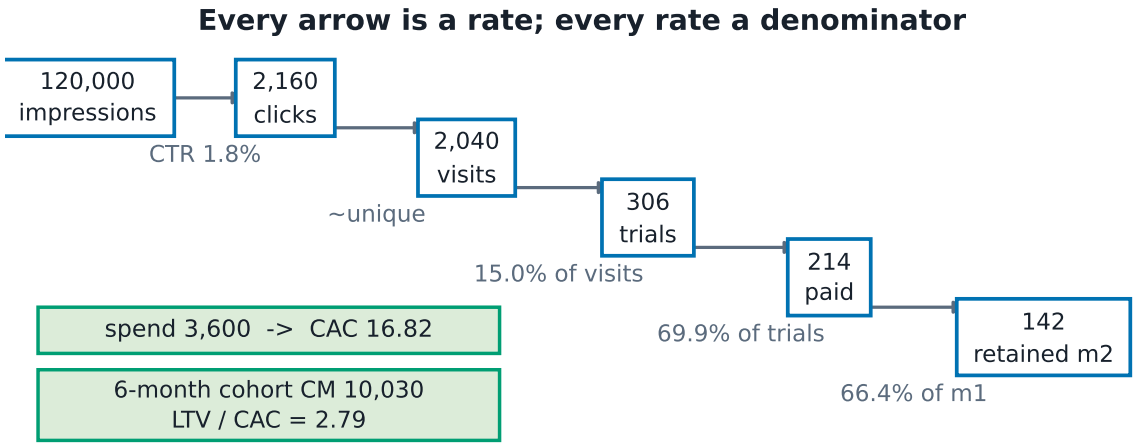
Objective

Read a funnel with stated denominators; compute CAC and LTV/CAC; design holdout tests against attribution defaults.

1 Key knowledge and worked examples

■ Rates, CAC, and the ratio

CTR = clicks/impressions; conversion = orders/visits (state which); CAC = spend/new customers; LTV = cohort contribution. Last-click attribution lies by default.



Every arrow a rate, every rate a denominator

■ Worked example. Month 1

CAC £16.82 ✓; 6-month cohort CM £10,030 (cohorts 214, 142, 121, 103, 88, 75 × £13.50) → LTV/CAC 2.79 ✓; +5 retention points = £144.45 a week – the lever is retention, not CTR.

exercises.lol exercises.com.cn

2 Practice

A language-app campaign: spend £9,000; 500,000 impressions; CTR 2.2%; 4,200 unique visits (dedup 4%); 630 trials; 378 paid conversions; month-2 retention 252.

2.1 Compute clicks, unique visits, and state the trial rate with its denominator. [3]

2.2 Compute CAC and month-2 retention. [2]

2.3 Six-month cohort CM is £21,700. Compute LTV/CAC and say in one line what it implies for spend. [2]

2.4 Last-click credits 60% to retargeting. Design the test that checks it, and state the finding that would falsify the claim. [3]

2.5 In one line each: why is a CTR gain a dangerous gift, and why must CAC comparisons name their channel mix? [2]

Solutions

2.1

- Clicks = 500,000 × 0.022 = 11,000.
- Unique visits = 4,200 (given; dedup already applied).
- Trial rate = 630/4,200 = 15.0% of unique visits.

2.2

- CAC = 9,000/378 = £23.81.
- Retention = 252/378 = 66.7%.

2.3

- LTV/CAC = 21,700/9,000 = 2.41.
- Below the healthy 3: scale spend only into channels that lift retention, not just installs.

2.4

- Holdout: disable retargeting in a random region for a month.
- Measure the sales gap against the claimed 60%.
- If sales barely move, the claim was attribution fiction – the orders would have happened anyway.

2.5

- CTR rises with the wrong visitors – the denominator fills with clickbait traffic that never converts.
- CAC blends channels; a mix shift changes the number without any channel getting better or worse.