63LABS

Restauranteur Learn & Build

SECTION 16 OF 16

Concepts and Quality Checks

Project concepts, business measurements, calculation practice, failure cases and the learning cycle.



SEPARATE TOPIC PDF / FULL RESTAURANT EDITION PRESERVED

Read this section

Two page-number systems

The section contents below use PDF page positions in this file. Original lesson footers keep their page numbers from the complete 619-page Restaurant Edition. "Master p/pp" still refers to the original 5,410-page Learn & Build source.

Same lessons, smaller files

Content has been separated, not rewritten. Nine shared-boundary pages were divided between their topics so every lesson keeps its ending. The complete Restaurant Edition and original master remain unchanged.

Start with the shared guide

The original scope guide is included below. Project sections also include the shared build starter and spreadsheet setup. These are learning and build specifications, not finished apps or certified operating instructions.

Moving between sections

Local contents and bookmarks open pages in this PDF. Cross-section links use the companion filenames and may require all files in one folder and a supporting PDF reader. If a link does not open, use the numbered section list and the printed edition-page label. Section 01 retains the original full-edition contents and source index.

The 16-section collection

01 Start Here and Source Index

02 Business Planning and Money

03 Stock Suppliers and Food Records

04 Team Operations and Procedures

05 Facilities Equipment and Resources

06 Catering Guests and Delivery

07 Marketing Publishing and Websites

08 Restaurant Products and Services

09 Careers and Team Learning

10 AI Tools and Task Guides

11 Operations Methods and Data

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Contents for this PDF

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How to use this edition

This is a restaurant-focused curation of the actual 5,410-page 63Labs Learn & Build combined master. It keeps useful original lessons, projects, worked reasoning and tool guidance, then adds clearly labeled restaurant applications. The original file remains unchanged.

A reference library rather than a course

Start with the problem you are solving. Operators can use the money, stock, supplier, team and guest workflows; restaurant-industry builders can use the service, software, content and commercial project material. You do not need to implement every project or buy every named tool.

Broad restaurant use, not just daily operations

The edition retains all 50 original business projects and 43 adaptable planning, facilities, food-record, event and learning projects. Optional supplier, catering, career, venue-event and creative applications are identified as such. Private health, medication, sleep, fitness, mood and veterinary-care projects are not converted into employee-management tools.

What was changed

Repeated setup instructions and repeated practice layouts are consolidated. Restaurant application paragraphs are new adaptations. Source lessons and project requirements are identified by their original master page numbers. Necessary source corrections are labeled rather than silently presented as original text.

What you receive

A learning and build-specification PDF. It does not include generated apps, connected POS systems, live forms, installed automations, completed spreadsheets, legal policies, or a restaurant-specific food-safety program. The projects explain what to build and how to test it.

Source references

Master p or pp always means the physical page position in 63Labs_Combined_Ready.pdf, not a page in this edition. P001-style labels preserve the original project IDs. The contents and PDF bookmarks navigate this edition; the final index traces its source material.

Keep consequential decisions reviewed

Use fictional data while building. Keep private guest, staff and payment data out of shared examples. Use approved restaurant procedures and current authoritative guidance for food safety, employment, taxes, accessibility, privacy and other regulated matters. This edition does not certify compliance or safe equipment work.

Project and data concepts

Master pp 5337-5357; repeated practice instructions consolidated. Restaurant applications and changed examples are editorial adaptations unless identified otherwise.

How to use these source cards

These are the retained reference concepts, examples and limits from the master. Apply them to the restaurant artifact you are building. Define each unit, source and period; keep examples separate from real business facts. Repeated page-by-page practice instructions are consolidated here.

001 / Outcome [master p5337]

Meaning: The observable result a user should be able to produce or explain. Fictional example: A user reconciles a receipt total to its source records. Common misunderstanding: Finish the worksheet is an activity, not a useful outcome. Better approach: State the decision or artifact the worksheet enables.

002 / Scope [master p5337]

Meaning: The work included in a particular version or agreement. Fictional example: A prototype supports one user and one reporting month. Common misunderstanding: Anything related to the topic is automatically included. Better approach: Name deliverables, limits, and explicit exclusions.

003 / Requirement [master p5338]

Meaning: A condition the artifact must satisfy. Fictional example: A balance must reflect two partial payments correctly. Common misunderstanding: A feature idea is the same as an approved requirement. Better approach: Record which requirements are agreed and testable.

004 / Acceptance Criterion [master p5338]

Meaning: An observable condition used to judge completion. Fictional example: A valid submission appears once in the receiving record. Common misunderstanding: The page looks professional is a sufficient criterion. Better approach: Describe the behavior and the evidence that demonstrate success.

005 / Assumption [master p5339]

Meaning: A proposition used provisionally when the fact is not established. Fictional example: A plan assumes four delivery hours per job. Common misunderstanding: An assumption becomes a fact when placed in a table. Better approach: Label it and state how it will be checked.

006 / Evidence [master p5339]

Meaning: Information that supports a particular claim within a stated context. Fictional example: A dated payment record supports a claim about money received. Common misunderstanding: A confident explanation is evidence by itself. Better approach: Connect the claim to an inspectable record or observation.

007 / Hypothesis [master p5340]

Meaning: A possible explanation or prediction that can be examined. Fictional example: Duplicate imports may explain an inflated total. Common misunderstanding: A plausible explanation is already the confirmed cause. Better approach: State what evidence would support or weaken it.

008 / Constraint [master p5340]

Meaning: A limit that shapes the feasible choices. Fictional example: The team has one shared room and six available hours. Common misunderstanding: A preference and an unavoidable limit are identical. Better approach: Identify whether the limit is fixed, negotiable, or assumed.

009 / Dependency [master p5341]

Meaning: A condition or task that another task relies on. Fictional example: Final export waits for approved content. Common misunderstanding: Tasks can be scheduled independently of missing inputs. Better approach: Show the prerequisite and its owner.

010 / Milestone [master p5341]

Meaning: A significant checkpoint with a defined completion condition. Fictional example: A prototype passes its first end-to-end test. Common misunderstanding: A calendar date alone proves the milestone was reached. Better approach: Attach a deliverable and acceptance evidence.

011 / Deliverable [master p5342]

Meaning: A concrete item or result handed over. Fictional example: A tested workbook file with first-use instructions. Common misunderstanding: A promise to create the file later is a deliverable. Better approach: Provide the actual agreed artifact.

012 / Owner [master p5342]

Meaning: The person or role accountable for a decision or action. Fictional example: One reviewer owns final content approval. Common misunderstanding: Everyone owns it is enough to ensure follow-through. Better approach: Name a responsible role and a backup or escalation route.

013 / Status [master p5343]

Meaning: A defined state in a workflow. Fictional example: An invoice is sent but not paid. Common misunderstanding: Similar-sounding states can be used interchangeably. Better approach: Define the event that enters and leaves each state.

014 / Identifier [master p5343]

Meaning: A stable label used to distinguish and connect records. Fictional example: Client C-017 links to two separate projects. Common misunderstanding: A person's editable name is always a reliable permanent key. Better approach: Keep a stable identifier and allow display names to change.

015 / Record [master p5344]

Meaning: A structured description of one defined item or event. Fictional example: One receipt row describes one payment. Common misunderstanding: One row can freely mix a customer, an order, and a payment. Better approach: Define what one record represents.

016 / Field [master p5344]

Meaning: One named part of a record. Fictional example: Payment date records when money was received. Common misunderstanding: A short label is enough to explain all possible values. Better approach: Add a meaning, format, source, and missing-value rule.

017 / Data Type [master p5345]

Meaning: The kind of value a field accepts. Fictional example: A due date is stored as a date rather than arbitrary text. Common misunderstanding: Values that look alike will behave alike in calculations. Better approach: Check the actual representation and allowed operations.

018 / Unit [master p5345]

Meaning: The scale or measure attached to a quantity. Fictional example: Hours per week differs from minutes per task. Common misunderstanding: A bare number has an obvious meaning. Better approach: Write units and time periods beside quantities.

019 / Null or Unknown [master p5346]

Meaning: An explicit absence of a known value. Fictional example: The actual payment date is unknown because no payment is confirmed. Common misunderstanding: Unknown is always equivalent to zero. Better approach: Preserve the distinction so totals and decisions are not misleading.

020 / Validation [master p5346]

Meaning: A check that an input follows defined rules. Fictional example: A required identifier cannot be blank. Common misunderstanding: Validation proves the underlying fact is true. Better approach: It checks the rule; source verification may still be needed.

021 / Reconciliation [master p5347]

Meaning: Comparing related records and explaining differences. Fictional example: A payout is matched to sales, fees, and refunds. Common misunderstanding: Changing one total until it matches completes reconciliation. Better approach: Find and document the reason for the difference.

022 / Duplicate [master p5347]

Meaning: An unintended repeated representation of the same item or event. Fictional example: One payment is imported twice. Common misunderstanding: Two records with the same name must be duplicates. Better approach: Verify identity and context before merging or removing records.

023 / Audit Trail [master p5348]

Meaning: A record of relevant changes and their basis. Fictional example: A correction note records the old value, new value, reason, and date. Common misunderstanding: Only the final value matters. Better approach: Keep enough history to explain important corrections.

024 / Version [master p5348]

Meaning: An identified state of an artifact at a point in its development. Fictional example: Version 2 includes the revised status rule. Common misunderstanding: A file named final can never change. Better approach: Use explicit version identifiers and review the delivered copy.

025 / Baseline [master p5349]

Meaning: The reference state used for comparison. Fictional example: The first tested version is retained before a change. Common misunderstanding: A baseline is automatically the correct or ideal state. Better approach: It is a comparison point whose limits still matter.

026 / Source of Truth [master p5349]

Meaning: The designated authoritative record for a defined fact. Fictional example: The receiving log governs confirmed received quantity. Common misunderstanding: One system is authoritative for every kind of fact. Better approach: Specify authority by field or event and handle conflicts explicitly.

027 / Input [master p5350]

Meaning: Information supplied to a process or artifact. Fictional example: Unit price and quantity feed a sales calculation. Common misunderstanding: Anything displayed on a page is an input. Better approach: Separate entered values from derived outputs.

028 / Output [master p5350]

Meaning: The result produced by a process or artifact. Fictional example: A due-task view is generated from dated task records. Common misunderstanding: A polished output proves the inputs are reliable. Better approach: Trace it back to the inputs and rules.

029 / Workflow [master p5351]

Meaning: The sequence of states and handoffs used to complete work. Fictional example: Draft, review, approval, and release are distinct stages. Common misunderstanding: A list of tasks automatically explains their order and ownership. Better approach: Add triggers, dependencies, owners, and outputs.

030 / Handoff [master p5351]

Meaning: The transfer of work or information to the next responsible person. Fictional example: An open issue moves to a named reviewer with evidence attached. Common misunderstanding: Sending a message proves the issue is resolved. Better approach: Record receipt, responsibility, current state, and next action.

031 / Bottleneck [master p5352]

Meaning: A limiting step that constrains overall throughput. Fictional example: Only one reviewer can approve the completed drafts. Common misunderstanding: More upstream work always increases completed output. Better approach: Examine the limiting step and the work waiting for it.

032 / Capacity [master p5352]

Meaning: The amount of work feasible within stated resources and conditions. Fictional example: A room has six bookable hours after setup and cleanup. Common misunderstanding: All calendar hours are available for delivery. Better approach: Subtract unavailable time and account for relevant constraints.

033 / Lead Time [master p5353]

Meaning: Elapsed time between a defined start and finish. Fictional example: A request takes four days from acceptance to delivery. Common misunderstanding: Lead time counts only active work. Better approach: Include waiting when measuring elapsed time.

034 / Cycle Time [master p5353]

Meaning: Time to complete a defined work cycle, using a stated measurement boundary. Fictional example: An editing cycle runs from draft pickup to review submission. Common misunderstanding: Cycle time means the same thing in every team. Better approach: Define start, stop, units, and scope before comparing.

035 / Priority [master p5354]

Meaning: A relative decision about what should be addressed first. Fictional example: A blocked customer delivery may outrank a cosmetic improvement. Common misunderstanding: Urgent labels alone establish an order. Better approach: Use impact, dependency, deadline, and effort evidence.

036 / Risk [master p5354]

Meaning: An uncertain event or condition that could affect an objective. Fictional example: A missing supplier confirmation could delay delivery. Common misunderstanding: A risk score is a prediction that the event will happen. Better approach: State cause, event, effect, owner, and response.

037 / Issue [master p5355]

Meaning: A condition already present that needs attention. Fictional example: The required file is missing from the delivery package. Common misunderstanding: Risks and current issues should share an undefined status. Better approach: Separate possible future events from problems already observed.

038 / Mitigation [master p5355]

Meaning: An action intended to reduce a risk's likelihood or effect. Fictional example: A small pilot reduces uncertainty before a large purchase. Common misunderstanding: A mitigation eliminates all uncertainty. Better approach: State the remaining risk and how the action will be checked.

039 / Contingency [master p5356]

Meaning: A planned response if a specified condition occurs. Fictional example: Use an approved alternate delivery route if the primary route fails. Common misunderstanding: A contingency is the normal workflow. Better approach: Define the trigger, owner, and scope of the fallback.

040 / Forecast [master p5356]

Meaning: An estimate of a future outcome based on assumptions. Fictional example: A cash forecast uses expected payment dates. Common misunderstanding: A forecast is the same as a confirmed result. Better approach: Show assumptions and update them with evidence.

041 / Scenario [master p5357]

Meaning: A coherent set of assumptions used to explore an outcome. Fictional example: A lower-volume case tests whether costs remain manageable. Common misunderstanding: An optimistic case is a promise. Better approach: Treat it as a conditional calculation or narrative.

042 / Sensitivity [master p5357]

Meaning: How much a result changes when an input changes. Fictional example: The pricing result changes when delivery hours increase. Common misunderstanding: All assumptions affect the result equally. Better approach: Change one input at a time and compare effects.

Record your own example

Write a restaurant-specific example, identify the supporting source record or observable behavior, and state the limitation. For calculations, independently work one normal and one changed-input case before relying on a formula.

Business measurement concepts

Master pp 5358-5366; repeated practice instructions consolidated. Restaurant applications and changed examples are editorial adaptations unless identified otherwise.

How to use these source cards

These are the retained reference concepts, examples and limits from the master. Apply them to the restaurant artifact you are building. Define each unit, source and period; keep examples separate from real business facts. Repeated page-by-page practice instructions are consolidated here.

043 / Revenue [master p5358]

Meaning: The amount associated with sales under the stated accounting basis. Fictional example: Ten units at $50 give $500 in modeled sales. Common misunderstanding: Revenue always equals money deposited in the same period. Better approach: State the accounting and timing basis; separate cash receipts.

044 / Cash Receipt [master p5358]

Meaning: Money actually received within a defined period. Fictional example: A customer pays $200 toward a larger invoice. Common misunderstanding: The full invoice amount is already a receipt. Better approach: Record the actual payment and remaining balance separately.

045 / Contribution [master p5359]

Meaning: Revenue less the variable or included costs specified by the model. Fictional example: A $100 sale less $60 included variable cost leaves $40. Common misunderstanding: Contribution automatically equals net profit. Better approach: List excluded fixed costs, taxes, and other obligations.

046 / Margin [master p5359]

Meaning: A result expressed relative to revenue or selling price. Fictional example: $20 contribution on $100 price is 20%. Common misunderstanding: Margin and markup use the same denominator. Better approach: Name the numerator and denominator explicitly.

047 / Markup [master p5360]

Meaning: An amount above a stated cost expressed relative to that cost. Fictional example: $20 above $80 cost is 25% markup. Common misunderstanding: A 25% markup means 25% of the selling price is contribution. Better approach: Calculate margin separately using the selling-price base.

048 / Fixed Cost [master p5360]

Meaning: A modeled cost that does not vary with volume within the stated range and period. Fictional example: A monthly workspace charge is treated as fixed in a simple model. Common misunderstanding: Fixed means the cost never changes under any circumstances. Better approach: State the relevant range and time period.

049 / Variable Cost [master p5361]

Meaning: A modeled cost that changes with the activity level. Fictional example: Packaging cost is modeled per shipped unit. Common misunderstanding: Every cost can be classified without context. Better approach: Define how the cost behaves in the chosen model.

050 / Break-Even [master p5361]

Meaning: The point where modeled contribution covers modeled fixed costs. Fictional example: $600 fixed cost at $30 contribution per unit requires 20 units. Common misunderstanding: Break-even includes every real-world obligation by default. Better approach: State the model's exclusions and assumptions.

051 / Receivable [master p5362]

Meaning: An amount owed under the stated record of a sale or obligation. Fictional example: An unpaid invoice balance remains outstanding. Common misunderstanding: A receivable is available bank cash. Better approach: Track payment timing and actual collections separately.

052 / Refund [master p5362]

Meaning: A return of money or a recorded obligation to return it, with status made explicit. Fictional example: An approved $40 refund is distinct from a completed $40 payment. Common misunderstanding: Approved and paid refunds are interchangeable. Better approach: Record request, approval, and payment events separately.

053 / Reservation [master p5363]

Meaning: An allocation of availability before a physical movement or final use. Fictional example: Five units are reserved but still physically present. Common misunderstanding: Reservation is the same as shipment. Better approach: Show physical quantity and available quantity separately.

054 / Conversion Rate [master p5363]

Meaning: The fraction of a defined starting group reaching a defined outcome. Fictional example: Two purchases from eight eligible inquiries is 25%. Common misunderstanding: Any two totals can form a meaningful conversion rate. Better approach: Use the same cohort, period, and eligibility rule.

055 / Cohort [master p5364]

Meaning: A defined group sharing a relevant starting condition or period. Fictional example: Inquiries received during the same week form one review group. Common misunderstanding: Mixing different groups never affects interpretation. Better approach: Keep the grouping rule visible when comparing outcomes.

056 / Denominator [master p5364]

Meaning: The quantity used as the base of a ratio. Fictional example: Eligible inquiries are the denominator for inquiry conversion. Common misunderstanding: A percentage is meaningful without its base. Better approach: Show the numerator, denominator, and zero-base behavior.

057 / Regression Test [master p5365]

Meaning: A check that a change did not break behavior that previously worked. Fictional example: After adding refunds, normal sales totals still reconcile. Common misunderstanding: Testing only the new feature is sufficient. Better approach: Rerun relevant existing cases after a change.

058 / Usability Test [master p5365]

Meaning: Observation of a user attempting a defined task. Fictional example: A tester tries to locate the next action without coaching. Common misunderstanding: Asking whether the page looks clear proves usability. Better approach: Observe behavior and record where the user hesitates.

059 / Accessibility [master p5366]

Meaning: Design that considers users' differing abilities and ways of interacting. Fictional example: Instructions use clear labels and do not rely on color alone. Common misunderstanding: A single visual adjustment proves accessibility for everyone. Better approach: Review actual tasks and relevant needs; test with appropriate users and tools.

060 / Release Gate [master p5366]

Meaning: A defined set of conditions required before delivery or publication. Fictional example: Files, permissions, and acceptance checks are complete. Common misunderstanding: A deadline automatically overrides every unresolved check. Better approach: Record whether each gate passed, failed, or remains blocked.

Record your own example

Write a restaurant-specific example, identify the supporting source record or observable behavior, and state the limitation. For calculations, independently work one normal and one changed-input case before relying on a formula.

Business calculation practice

Master pp 5367-5376; repeated practice instructions consolidated. Restaurant applications and changed examples are editorial adaptations unless identified otherwise.

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061 / Sales total [master p5367]

Relationship: quantity x unit price Fictional inputs: 12 units at $25 Worked calculation: 12 x 25 = $300 Changed-input exercise: Change quantity to 9. Calculate before checking the answer. Answer: 9 x 25 = $225 Limits: Does not determine cash timing or profit.

062 / Net receipts [master p5367]

Relationship: receipts - refunds - stated fees Fictional inputs: $800 received, $80 refunded, $24 fees Worked calculation: 800 - 80 - 24 = $696 Changed-input exercise: Increase refunds to $120. Calculate before checking the answer. Answer: 800 - 120 - 24 = $656 Limits: Other costs and retained refund fees require explicit entries.

063 / Included contribution [master p5368]

Relationship: sales - included variable costs Fictional inputs: $1,200 sales and $720 included variable costs Worked calculation: 1,200 - 720 = $480 Changed-input exercise: Costs rise to $840. Calculate before checking the answer. Answer: 1,200 - 840 = $360 Limits: Not net profit unless all relevant costs are actually included.

064 / Contribution margin [master p5368]

Relationship: contribution / sales x 100 Fictional inputs: $480 contribution on $1,200 sales Worked calculation: 480 / 1,200 x 100 = 40% Changed-input exercise: Contribution falls to $360. Calculate before checking the answer. Answer: 360 / 1,200 x 100 = 30% Limits: Undefined when the revenue denominator is zero.

065 / Markup [master p5369]

Relationship: amount above cost / cost x 100 Fictional inputs: $30 above $120 included cost Worked calculation: 30 / 120 x 100 = 25% Changed-input exercise: Price is $180 on the same $120 cost. Calculate before checking the answer. Answer: 60 / 120 x 100 = 50% Limits: Uses cost as the denominator, not price.

066 / Price for target margin [master p5369]

Relationship: included cost / (1 - target margin) Fictional inputs: $150 included cost; target margin 25% Worked calculation: 150 / 0.75 = $200 Changed-input exercise: Cost rises to $180 at the same target. Calculate before checking the answer. Answer: 180 / 0.75 = $240 Limits: Simplified model; target margin must be below 100% and omitted costs remain omitted.

067 / Whole-unit break-even [master p5370]

Relationship: round up fixed cost / contribution per unit Fictional inputs: $725 fixed costs; $40 price; $15 variable cost Worked calculation: 725 / 25 = 29 units Changed-input exercise: Fixed costs become $730. Calculate before checking the answer. Answer: 730 / 25 = 29.2, so 30 whole units Limits: Requires positive contribution and a stated period and cost model.

068 / Ending cash [master p5370]

Relationship: opening cash + receipts - payments Fictional inputs: $900 opening; $450 receipts; $620 payments Worked calculation: 900 + 450 - 620 = $730 Changed-input exercise: Receipts are delayed by $200. Calculate before checking the answer. Answer: 900 + 250 - 620 = $530 Limits: Include financing or transfers explicitly if part of the model.

069 / Invoice balance [master p5371]

Relationship: invoice - credits - payments Fictional inputs: $1,000 invoice; $100 credit; $350 paid Worked calculation: 1,000 - 100 - 350 = $550 Changed-input exercise: Another $200 is paid. Calculate before checking the answer. Answer: 1,000 - 100 - 550 = $350 Limits: A credit is not a cash payment.

070 / Stock balance [master p5371]

Relationship: opening + receipts - shipments + signed adjustments Fictional inputs: 20 opening; 12 received; 9 shipped; -1 adjustment Worked calculation: 20 + 12 - 9 - 1 = 22 Changed-input exercise: Receive 4 more units. Calculate before checking the answer. Answer: 22 + 4 = 26 Limits: Reservations belong in a separate availability calculation.

071 / Available stock [master p5372]

Relationship: physical stock - reserved quantity Fictional inputs: 33 physical; 5 reserved Worked calculation: 33 - 5 = 28 Changed-input exercise: Cancel reservations for 2 units. Calculate before checking the answer. Answer: 33 - 3 = 30 Limits: Define other restrictions separately if relevant.

072 / Conversion rate [master p5372]

Relationship: outcomes / eligible starting group x 100 Fictional inputs: 6 purchases from 40 eligible inquiries Worked calculation: 6 / 40 x 100 = 15% Changed-input exercise: 8 purchases from the same group. Calculate before checking the answer. Answer: 8 / 40 x 100 = 20% Limits: Use a consistent cohort and time window.

073 / Average order value [master p5373]

Relationship: sales / number of orders Fictional inputs: $1,050 across 14 orders Worked calculation: 1,050 / 14 = $75 Changed-input exercise: Sales become $1,120 across 16 orders. Calculate before checking the answer. Answer: 1,120 / 16 = $70 Limits: State whether returns, fees, and taxes are included.

074 / Contribution per work hour [master p5373]

Relationship: included contribution / total work hours Fictional inputs: $420 contribution over 12 total hours Worked calculation: 420 / 12 = $35/hour Changed-input exercise: Two more unpaid work hours are added. Calculate before checking the answer. Answer: 420 / 14 = $30/hour Limits: Include travel, administration, and waiting if part of the work.

075 / Monthly equivalent [master p5374]

Relationship: annual amount / 12 Fictional inputs: $480 annual charge Worked calculation: 480 / 12 = $40/month equivalent Changed-input exercise: Annual charge becomes $540. Calculate before checking the answer. Answer: 540 / 12 = $45/month equivalent Limits: An equivalent is not the actual monthly cash payment schedule.

076 / Time remaining [master p5374]

Relationship: available time - committed time Fictional inputs: 8 hours available; 5.5 committed Worked calculation: 8 - 5.5 = 2.5 hours Changed-input exercise: Add a 45-minute task. Calculate before checking the answer. Answer: 2.5 - 0.75 = 1.75 hours Limits: Use consistent units and include relevant buffers.

077 / Task completion rate [master p5375]

Relationship: completed eligible tasks / eligible tasks x 100 Fictional inputs: 9 completed of 12 eligible tasks Worked calculation: 9 / 12 x 100 = 75% Changed-input exercise: One more eligible task is completed. Calculate before checking the answer. Answer: 10 / 12 x 100 = 83.33% Limits: A count treats tasks equally unless a different weighting is explicitly defined.

078 / Relative change [master p5375]

Relationship: (new - old) / old x 100 Fictional inputs: Value rises from 80 to 100 Worked calculation: (100 - 80) / 80 x 100 = 25% Changed-input exercise: Value falls from 100 to 80. Calculate before checking the answer. Answer: (80 - 100) / 100 x 100 = -20% Limits: The starting base matters; zero starting value needs separate handling.

079 / Weighted estimate [master p5376]

Relationship: sum of amount x stated weight Fictional inputs: A: $2,000 at 20%; B: $1,000 at 50% Worked calculation: 400 + 500 = $900 Changed-input exercise: A is removed from the active estimate. Calculate before checking the answer. Answer: $500 remains Limits: Weights are assumptions, not guarantees or collected cash.

080 / Schedule overlap [master p5376]

Relationship: earlier end minus later start, if positive Fictional inputs: A 10:00-11:00; B 10:30-11:30 Worked calculation: 11:00 - 10:30 = 30 minutes Changed-input exercise: A occupies the resource until 11:15. Calculate before checking the answer. Answer: 11:15 - 10:30 = 45 minutes Limits: Use the same date, timezone, and resource; include setup and cleanup.

Record your own example

Write a restaurant-specific example, identify the supporting source record or observable behavior, and state the limitation. For calculations, independently work one normal and one changed-input case before relying on a formula.

Failure cases and quality checks

Master pp 5377-5384; repeated practice instructions consolidated. Restaurant applications and changed examples are editorial adaptations unless identified otherwise.

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081 / Missing input [master p5377]

Purpose and method: Remove one required input while keeping the rest valid. Fictional test fixture: A blank payment amount must not silently become a confirmed zero payment. Expected behavior: The record is blocked or explicitly incomplete.

082 / Zero denominator [master p5377]

Purpose and method: Set the base of a ratio to zero. Fictional test fixture: No eligible inquiries means the conversion rate is undefined, not automatically 0%. Expected behavior: The output explains the missing base without a misleading percentage.

083 / Duplicate event [master p5378]

Purpose and method: Submit the same event identifier twice. Fictional test fixture: One payment import is repeated. Expected behavior: The same event is not counted twice without an explicit reason.

084 / Different identity [master p5378]

Purpose and method: Use equal display names with distinct identifiers. Fictional test fixture: Two contacts share a business name. Expected behavior: Separate people remain separate unless identity is verified.

085 / Renamed item [master p5379]

Purpose and method: Change a display name without changing its identifier. Fictional test fixture: A client changes its trading name. Expected behavior: Related records and history remain connected.

086 / Partial completion [master p5379]

Purpose and method: Complete one component while leaving another open. Fictional test fixture: One of two client projects is finished. Expected behavior: Only the relevant component changes to complete.

087 / Reversed event [master p5380]

Purpose and method: Apply a valid reversal or refund. Fictional test fixture: A $100 payment is followed by a $20 refund. Expected behavior: The net result changes by the documented reversal once.

088 / Timing difference [master p5380]

Purpose and method: Place a related event in a different reporting period. Fictional test fixture: An invoice is issued now but paid next month. Expected behavior: The two events remain in the appropriate measures and periods.

089 / Boundary date [master p5381]

Purpose and method: Test the first and last included dates. Fictional test fixture: A weekly view includes Monday through Sunday under its stated rule. Expected behavior: Items appear once in the correct interval.

090 / Unit mismatch [master p5381]

Purpose and method: Supply a quantity with a different unit. Fictional test fixture: Minutes are entered into a field defined in hours. Expected behavior: The mismatch is rejected or converted explicitly.

091 / Unexpected status [master p5381]

Purpose and method: Supply a state outside the allowed workflow. Fictional test fixture: A draft invoice is marked paid with no payment record. Expected behavior: The inconsistency is visible and requires resolution.

092 / Concurrent edit [master p5382]

Purpose and method: Describe two people changing the same source value. Fictional test fixture: Two reviewers set different due dates. Expected behavior: The design states how the conflict is detected and resolved.

093 / Stale version [master p5382]

Purpose and method: Open a previously delivered version after a correction. Fictional test fixture: An old price worksheet is still in a shared folder. Expected behavior: The authoritative version and superseded status can be identified.

094 / Broken dependency [master p5382]

Purpose and method: Remove a required linked component in a test copy. Fictional test fixture: A report depends on a missing source table. Expected behavior: The failure is visible rather than replaced with plausible stale output.

095 / Retry behavior [master p5383]

Purpose and method: Repeat an action after an uncertain confirmation. Fictional test fixture: A form is submitted again after a slow response. Expected behavior: The system handles the retry according to a documented event rule.

096 / Access expectation [master p5383]

Purpose and method: Compare the intended information access with the actual artifact. Fictional test fixture: A shared practice sheet contains hidden sensitive columns. Expected behavior: The review does not mistake hidden display for enforced access control.

097 / Export check [master p5383]

Purpose and method: Open the exact exported file in its intended use context. Fictional test fixture: A PDF export cuts off a table column. Expected behavior: All required content is readable and complete.

098 / Recovery check [master p5384]

Purpose and method: Restore a safe test copy from the intended backup. Fictional test fixture: The main file opens but linked data is absent. Expected behavior: The test includes the complete dependency set.

099 / First-use check [master p5384]

Purpose and method: Observe a new user attempting the main task. Fictional test fixture: The user cannot identify which copy to edit. Expected behavior: Instructions and file labels lead to the intended working copy.

100 / Regression check [master p5384]

Purpose and method: Rerun earlier valid cases after a change. Fictional test fixture: Adding refunds must not break ordinary receipt totals. Expected behavior: Previously working behavior remains correct for the tested scope.

Test evidence

Record artifact/version, condition, expected behavior, actual behavior and pass/fail/blocked. A pass covers only the tested condition/version. A blocked test is not a pass; correct failures and rerun the same condition. Use fictional test copies, not destructive tests on live records.

A repeatable learning and build cycle

Adapted from master pp 1007-1009, 5385-5410. Restaurant applications and changed examples are editorial adaptations unless identified otherwise.

Define the result

Write an observable task: by the end of this session I can create, explain or test a particular restaurant artifact. Choose the relevant source rather than reading the entire library in order.

Retrieve and attempt

List the needed inputs and unknown terms, study one example, then close it and attempt the task. Use fictional records for software tests. Unknown business facts remain unknown.

Check and improve

Compare the output with expected results, identify the first unsupported assumption or error, and record the correction. Ask a new person to try it without coaching. Confidence and visual polish do not replace evidence.

A suggested sequence

The original 30-day route uses choose, build a small version, test, revise, document and decide. Treat those as work phases, not a promise of launch or mastery within a month. The 24 later study-session templates repeat the same plan/apply/review structure; this edition retains that cycle once and uses the individual project exercises for topic-specific practice.

Keep the evidence

Save the version, input source, calculations, test results, correction, owner and next review together. A result can be pass, fail or blocked. Decide whether to continue, narrow scope, seek qualified training or stop based on the evidence.