Procurement and contracts

Five formulas and rules, each with a worked example, then the two model sheets. They serve IPMA, PMI and APM exams alike; APM's PMQ asks more for the purpose than for the arithmetic.

FORMULAS AND KEY RULES

Make or buy, on full cost

make = own days × own rate + what the supplier still charges · buy = the quote

Count the cost of checking, integrating and supporting the work, not only building it. At equal cost, skills, capacity, control and warranty decide.

`Example: A supplier quotes 20 days × €750 = €15,000. In-house: 20 days × €600 = €12,000, plus 4 supplier days (€3,000) to check it: €15,000. Equal, so who is free and who gives the warranty decide`

Weighted selection score

score = Σ (weight × score per criterion) · weights add up to 1

Publish the criteria and weights before the bids arrive, and score every bid against them. Best value, not lowest price.

`Example: Weights: price 0.4, solution 0.4, experience 0.2; scores out of 10. Bid A (8, 6, 7): 3.2 + 2.4 + 1.4 = 7.0. Bid B (6, 9, 8): 2.4 + 3.6 + 1.6 = 7.6, so B wins`

Target cost with a share ratio

fee = target fee + supplier's share × (target cost − actual cost) · price = actual cost + fee

Overruns lower the supplier's fee and savings raise it, so both sides gain from control. PMI and APM both name target cost.

`Example: Target €400,000, target fee €40,000, share 50/50. Actual €440,000: fee €40,000 − €20,000 = €20,000; price €460,000. Actual €380,000: fee €50,000; price €430,000`

Time and materials with a cap

days the cap buys = cap ÷ day rate · raise it when the forecast passes the cap

The buyer carries the risk of how long the work takes; the cap (APM: not-to-exceed limit) stops the open end. Watch the forecast, not only the spend.

`Example: A €36,000 cap at €800 a day buys 45 days. The forecast is 50 days (€40,000): ask for a decision now, not on day 45`

BATNA, walk-away point and ZOPA

walk-away point = value of your BATNA · ZOPA = from their floor to your walk-away point

BATNA: Fisher and Ury's "best alternative to a negotiated agreement", your real plan if the talks break down. Adjust its value for quality, time and risk. If the limits leave no zone, take your BATNA.

`Example: A supplier quotes €30,000. In-house: 40 days × €600 = €24,000 + €3,000 for the supplier's check = €27,000, the walk-away point. Its floor is perhaps €20,000: ZOPA €20,000–€27,000`

IN THIS HANDOUT

Sources: IPMA ICB4 (2015); PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026); Fleming, Project Procurement Management; Fisher, Ury & Patton, Getting to Yes; Raiffa, The Art and Science of Negotiation (1982); IPMA International Certification Regulations (ICR) v4.4 (2025)

Key: IPMA = International Project Management Association; ICB4 = IPMA's Individual Competence Baseline; PMI = Project Management Institute; PMBOK® Guide = PMI's body-of-knowledge guide; PMP® = PMI's Project Management Professional; APM = Association for Project Management; PMQ = APM's Project Management Qualification; ICR = IPMA's International Certification Regulations.

Contract types and risk

Choose how a supplier is paid, and so who carries the cost risk, to fit how well the work is defined.

TYPE	YOU PAY	COST RISK	FITS WHEN
Fixed price	An agreed price for set scope	Supplier, priced in	Scope is clear and stable
Target cost	Actual cost; gap to target shared	Shared by a ratio	Mostly clear, some unknowns
Unit price	A rate × units delivered	Rate: supplier · quantity: buyer	Many identical units
Time and materials	Time used × rates, plus materials	Buyer; capped	Small, unclear or agile work
Cost plus fee	Actual costs plus a fee	Mostly the buyer	New work, such as research

Our own summary, after standard guides and Fleming (2003). Top: most risk on the supplier.

WHAT IT IS

Each type answers one question: **who carries the cost risk** if the work costs more than planned? A fixed price puts it on the supplier, who prices it in; Fleming (2003) ties it to a need the buyer can specify precisely and expects to stay stable. Cost plus fee (PMI: cost-reimbursable) leaves most risk with the buyer, who carries more the less is defined now.

HOW IT WORKS

01 How well can the work be defined now? Will it change?

02 Let whoever best controls a cost carry its risk.

03 Limit open-ended types with a cap or target.

04 No contract passes on all the risk.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A city team is moving resident parking permits online in eight months. Its supplier has a €420,000 fixed price, a €750 day rate for changes and a €40,000 change budget.

The supplier asks to be paid for a new report. The project manager first checks the tender: work inside the fixed price stays the supplier's risk. It is new, so it is priced at the day rate, 12 × €750 = €9,000, and the steering group releases it.

In the exam: Name the type, who carries which risk and why. Check the contract before you pay, and price a change by its own rules.

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months, with a platform supplier, an integration partner and the internal owners of 9 old systems.

The project manager shapes a mix with Procurement and Legal: for the platform, fixed price core plus time and materials for changes, with milestone payments and delay damages; capped time and materials for the partner (old systems hide surprises); service agreements for the owners.

In the exam: Explain the strategy as a whole: why each type fits its package, how contracts meet at the interfaces, and which risks the buyer keeps.

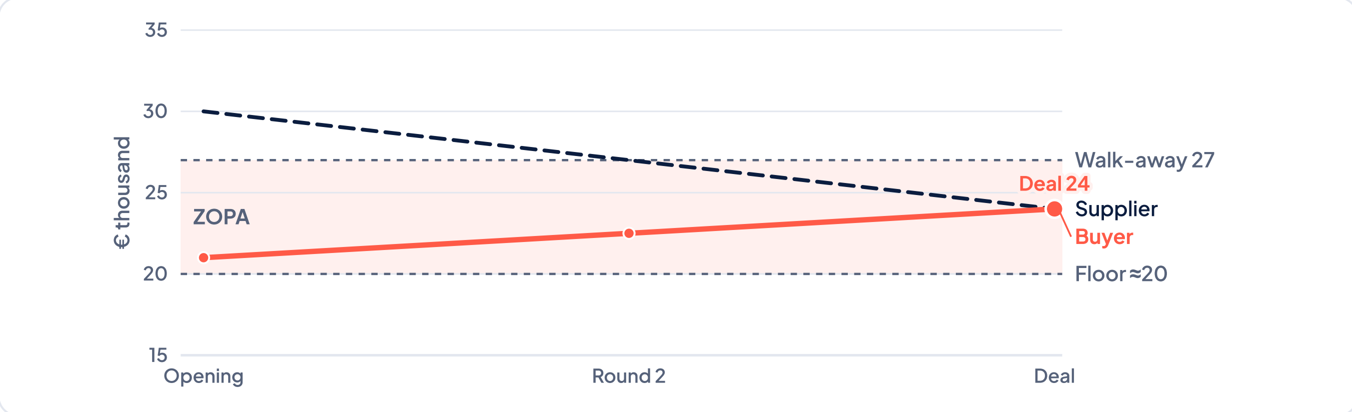
WHERE IT SITS

IPMA · ICB4	PMI · *PMBOK® GUIDE* 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.5.9 Procurement: tell contract forms and their effects apart (4.5.9.3)	Guide: App. X4.8, pp. 250–252, incl. agile contracting. Exam outline: Domain II, task 5	BoK (APM's Body of Knowledge) §5.9.1 Types of contracts (T&M: a not-to-exceed limit, the cap). PMQ (APM's Project Management Qualification) 5c: ways to pay suppliers

Sources: IPMA ICB4 (2015); Fleming, Project Procurement Management; PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026)

BATNA and ZOPA

Decide when to say yes and when to walk away, against your best alternative.



Illustrative offers by round, € thousand. The ZOPA runs from the supplier's floor to the buyer's walk-away point.

WHAT IT IS

Your **BATNA** is your real plan if the talks break down; Fisher and Ury's term, short for "best alternative to a negotiated agreement". Its value is your **walk-away point** (Raiffa, 1982: reservation price). The **zone of possible agreement (ZOPA)** is the range both limits allow. If there is none, each side takes its BATNA.

HOW IT WORKS

01 Price your best option without a deal.

02 Estimate their floor; label it an assumption.

03 Trade what is cheap for you, valuable to them.

04 Agree the mandate first. Write the deal down.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A supplier on a fixed price, with a €750 day rate for changes, quotes €30,000 (40 days) for renewal reminders. The city's own IT team could build them instead.

BATNA: the IT team, 40 days × €600 = €24,000, plus €3,000 to check it: a €27,000 walk-away point. The supplier's floor is perhaps €20,000. They agree 32 days: €24,000, inside the ZOPA.

In the exam: State your BATNA and walk-away point, estimate theirs, show the zone in numbers, and justify the deal with a yardstick.

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months. Its project manager may commit up to €40,000 per decision; the board decides above that.

Before talks on a large change, she agrees with the board a target, a limit and who signs. She builds a real alternative and plans what happens with no deal.

In the exam: Show that you built the BATNA before the talks, set mandates and limits, and weighed the relationship, not only the price.

WHERE IT SITS

IPMA · ICB4	PMI · *PMBOK® GUIDE* 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.4.9 Negotiation: a BATNA (4.4.9.2), used if no sustainable deal (4.4.9.4); mandate: 4.5.9.3	Guide: negotiation, p. 183 (led by someone who may sign). Exam outline: Domain II, task 5	BoK (APM's Body of Knowledge) §4.2.3 Negotiation: bottom line, BATNA, ZOPA. PMQ (APM's Project Management Qualification) 5b: ZOPA, BATNA, win-win

Sources: Fisher, Ury & Patton, Getting to Yes; Raiffa, The Art and Science of Negotiation (1982); IPMA ICB4 (2015); PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026)