From facts to financial statements

MODULE 1 / DECISION MAP

1. **Identify the facts**
   What happened, when, and to which reporting entity?

2. **Find the governing requirement**
   Use the specific standard before the general Framework.

3. **Identify the element**
   Which present resource or obligation arose from past events?

4. **Assess recognition**
   Apply the standard; consider uncertainty and useful information.

5. **Measure and record**
   Choose the required basis; calculate and balance the journal.

6. **Present and explain**
   Show the amount, policy, assumptions and material uncertainty.

Five elements, one connected model

Element	Question
Asset	What right does the entity control that can produce benefits?
Liability	What present obligation requires transfer of resources?
Equity	What remains after recognised liabilities are deducted from assets?
Income	What increased equity other than owner contributions?
Expense	What decreased equity other than owner distributions?

A definition alone does not settle recognition. Apply the relevant standard, and do not use a note to replace a required recognised amount.

Source: AASB Conceptual Framework (December 2021), chapters 2, 4-7. Guide: Module 1, printed pp. 16-38. Original wording and design. standards.aasb.gov.au/conceptual-framework-dec-2021

Useful information: a two-stage check

MODULE 1 / QUALITIES & CONNECTIONS

First: relevance and faithful representation

Could this affect a user decision? Does it give a complete, neutral and appropriately supported account? An estimate can be useful without being perfectly certain.

Then enhance it	Ask
Comparability	Can users compare like items and distinguish unlike items?
Verifiability	Can informed independent observers broadly agree?
Timeliness	Is the information available while it can matter?
Understandability	Are complexity, assumptions and uncertainty explained clearly?

Link the statements

Assets - liabilities = equity. Closing equity reflects opening equity, comprehensive income and owner transactions, together with any required prior-period adjustments.

Transaction	Why cash is not profit
Borrow $18,000	Cash and borrowing rise together; no income on receipt.
Receive $4,000 before service	Cash and a contract liability rise; revenue follows satisfaction of the obligation.
Pay a dividend	Cash and equity fall; this is not operating expense.

Materiality depends on nature, size and circumstances. A small director-related transaction can matter. Enhancing qualities cannot repair an irrelevant or misleading amount.

Source: AASB Conceptual Framework (December 2021), chapters 2, 4-7. Guide: Module 1, printed pp. 16-38. Original wording and design. standards.aasb.gov.au/conceptual-framework-dec-2021

Time value: choose the cash-flow pattern

MODULE 1 / FORMULAS

r = rate per period; n = number of periods; C = equal periodic payment; F = a future single amount. Match rate and cash-flow periods before calculating.

Pattern	Formula
Single future amount	PV = F / (1 + r)^n
Unequal cash flows	PV = sum of C_t / (1 + r)^t
Equal end-of-period payments	PV = C x [1 - (1 + r)^(-n)] / r
Equal payments starting now	PV = ordinary-annuity PV x (1 + r)
Single amount growing forward	FV = present amount x (1 + r)^n
End-of-period deposits growing forward	FV = C x [(1 + r)^n - 1] / r

Timing check

Ordinary annuity: payments at times 1, 2, ... n. Annuity due: payments at times 0, 1, ... n-1. A payment now is not discounted. At r = 0, a single-amount factor is 1 and an annuity factor is n.

Original example

A $20,000 receipt in two years, discounted at 8% annually: $20,000 / 1.08^2 = **$17,146.78**. A positive discount rate makes the present amount smaller than the future receipt.

PV is a calculation technique, not a separate measurement basis. Choose cash flows and a rate consistent with the basis required by the standard. Do not include the same risk twice.

Guide: Module 1, printed pp. 27-38. AASB Conceptual Framework, chapter 6; AASB 13, paragraphs 61-90. Formulas independently calculated.

Coupon cash is not effective interest

MODULE 1 / ORIGINAL NOTE EXAMPLE

Two-year note: face $10,000; coupon 6% paid annually in arrears; yield 8%. No transaction costs or credit losses. Initial liability = 600 / 1.08 + 10,600 / 1.08^2 = **$9,643.35**.

Year	Opening	Interest 8%	Coupon	Closing*
1	9,643.35	771.47	(600.00)	9,814.81
2	9,814.81	785.19	(600.00)	10,000.00

*Before principal repayment. Calculations retain full precision; displayed rounded columns can differ by one cent.

Journal sequence

Event	Debit	Credit
Issue	Cash 9,643.35	Note liability 9,643.35
Year 1	Finance expense 771.47	Cash 600.00; note liability 171.47
Year 2*	Finance expense 785.18	Cash 600.00; note liability 185.18
Repay principal	Note liability 10,000.00	Cash 10,000.00

*Posting in cents: Year 2 interest includes a one-cent rounding adjustment so the liability clears exactly. The schedule above retains full precision. Total finance expense = total cash paid - proceeds received.

Self-check

A discount increases towards face value as the lower cash coupon is paid. A premium reduces towards face value. The effective rate is applied to the opening carrying amount, not automatically to face value.

Guide: Module 1, printed pp. 30-32. Original scenario applying effective-interest principles; not a reproduced study-guide question.

Lessee: build two opening amounts

MODULE 1 / IFRS 16

1. **Check the contract**
   Identified asset + control of use + consideration.

2. **Determine the lease term**
   Include option periods only when the specified certainty test is met.

3. **Identify unpaid lease cash flows**
   Separate services unless the permitted expedient is elected.

4. **Discount the liability**
   Implicit rate if readily determinable; otherwise incremental borrowing rate.

5. **Build the right-of-use asset**
   Liability + prepayments - incentives + qualifying costs/restoration.

Remember	Why it matters
12 months or less is not enough	A short-term lease must have no purchase option.
Low value is assessed when new	An old expensive asset is not automatically low value.
Residual guarantee	Lessee includes the expected amount payable, not automatically the whole guarantee.
Variable payments	Index/rate and in-substance fixed amounts differ from pure usage/sales payments.
Payments made now	Add to the ROU asset; exclude from unpaid liability.

AASB 16 (December 2021), paragraphs 5-8, 9-28, Appendix A, B3-B33. Guide: Module 1, pp. 38-41.
standards.aasb.gov.au/aasb-16-dec-2021

Lessee: three payments in arrears

MODULE 1 / ORIGINAL WORKED EXAMPLE

Three annual payments of $12,000 at each year end; rate 6%; no services, incentives, guarantees, costs or options. Ownership does not transfer; useful life five years. Liability and initial ROU asset = **$32,076.14**. Depreciation period: three years.

Year	Opening	Interest	Cash paid	Closing
1	32,076.14	1,924.57	(12,000)	22,000.71
2	22,000.71	1,320.04	(12,000)	11,320.75
3	11,320.75	679.25	(12,000)	0.00

Entries at commencement and Year 1

Event	Debit	Credit
Commencement	ROU asset 32,076.14	Lease liability 32,076.14
Interest	Finance expense 1,924.57	Lease liability 1,924.57
Payment	Lease liability 12,000.00	Cash 12,000.00
Depreciation	Depreciation expense 10,692.05	Accumulated depreciation 10,692.05

Repeat interest and cash entries each year. Total interest = $36,000 - $32,076.14 = $3,923.86. Retain precision in schedules; adjust final cents when posting.

Advance-payment variation

Pay at times 0, 1 and 2 instead. Initial liability = **$22,000.71**; ROU asset = **$34,000.71**. Debit ROU asset $34,000.71; credit liability $22,000.71 and cash $12,000. Liability ends after Year 2, but use and depreciation continue through Year 3.

AASB 16 (December 2021), paragraphs 22-36. Guide: Module 1, pp. 39-42. Original calculations; no tax or lease modification assumed.

Lessor: separate the residual recovery

MODULE 1 / FINANCE AND OPERATING LEASES

For a finance lease, the net investment includes lease payments under lessor rules and the unguaranteed residual accruing to the lessor. That residual is not a debt owed by the lessee.

Original ordinary-lessor example: three year-end receipts of $10,000, unguaranteed residual $4,000 recovered at Year 3 end, implicit rate 8%. No direct costs or selling profit. Initial underlying carrying amount equals net investment.

Stage	Net investment
Initial: PV of receipts plus residual	28,946.30
After Year 1 cash receipt	21,262.00
After Year 2 cash receipt	12,962.96
After Year 3 cash receipt	4,000.00
After residual asset recovery at assumed value	0.00

Initially: debit net investment and credit underlying asset $28,946.30. Year 1: debit net investment and credit finance income $2,315.70; then debit cash and credit net investment $10,000. Recovering the residual is a separate asset recovery.

Finance lease	Operating lease
Substantially all risks and rewards transfer. Assess substance; no automatic 75% or 90% rule.	Underlying asset remains recognised.
Recognise net investment and a periodic finance return.	Recognise lease income; depreciate and assess impairment.
Manufacturer/dealer lessors have additional rules.	Qualifying initial direct costs are added and expensed over the lease term on the income basis.

AASB 16 (December 2021), paragraphs 61-97 and Appendix A. Guide: Module 1, pp. 42-44. Full-precision calculations; display rounding only.

Leave: service first, cash later

MODULE 1 / IAS 19

Benefit	Recognition focus
Non-accumulating leave	Expense when the absence occurs.
Accumulating, vesting leave	Recognise service-earned obligation as entitlement builds.
Accumulating, non-vesting leave	Estimate extra future payments caused by carried-forward entitlement.

Long service leave: original teaching example

Fictional terms: eight weeks after ten years; six years served; payment in four years. Salary $78,000, salary growth 3%, payment probability 80%, discount rate 5%. Straight-line attribution; no plan assets or earlier pro-rata right.

Step	Working	Amount
Project salary	78,000 x 1.03^4	87,789.69
Full benefit	Salary x 8 / 52	13,506.11
Past service	Benefit x 6 / 10	8,103.66
Probability	Past-service amount x 80%	6,482.93
Present obligation	Expected amount / 1.05^4	5,333.52

Discount the four future years, not six past years. Apply probability once. If the existing provision is $4,900 and there are no other movements, debit employee expense and credit provision **$433.52**.

Actual benefit terms determine attribution and settlement. Match the discount rate to currency and term: reporting-date high-quality corporate bonds, or government bonds where that currency lacks a deep corporate market. Post-employment benefits are a separate category, not automatically LSL-style obligations.

AASB 119 (December 2021), paragraphs 8-18, 67-74, 83-86, 153-156. Guide: Module 1, pp. 45-49. Fictional terms, not legal leave advice.

Share-based pay: equity or liability?

MODULE 1 / IFRS 2

Employee award	Equity-settled	Cash-settled
Credit	Equity	Liability
Measurement	Grant-date fair value of equity instruments	Fair value of liability
Later fair-value changes	No routine remeasurement of grant-date value	Remeasure at reporting dates and settlement
Service/vesting	Recognise service received; apply relevant vesting rules	Recognise service received; apply relevant vesting rules

Immediately vested equity award

1,000 shares; grant-date fair value $9 each; services already received. Debit employee expense **$9,000**; credit equity **$9,000**. A later share-price change alone does not change this amount.

Separate fully vested cash award

Event	Debit	Credit
Reporting-date value $9,000	Expense 9,000	Award liability 9,000
Settlement value $10,500	Expense 1,500	Award liability 1,500
Pay cash	Award liability 10,500	Cash 10,500

If service must be provided in future periods, recognise as service is received. Service and non-market vesting conditions affect expected awards; market conditions have different treatment. Goods or services qualifying as an asset are not automatically expensed.

For non-employees, direct measurement of goods or services is normally the starting point under the standard. Do not apply employee grant-date rules indiscriminately to suppliers.

AASB 2 (December 2021), paragraphs 7-23, 30-33D. Guide: Module 1, pp. 49-50. standards.aasb.gov.au/aasb-2-dec-2021

Property: use determines the route

MODULE 1 / IAS 40

1 **Own production or administration?**
Consider IAS 16 for owner-occupied property.

2 **Ordinary-course sale?**
Consider IAS 2 for property held as inventory.

3 **Rentals or capital appreciation?**
Consider IAS 40 for investment property.

4 **Mixed use or significant services?**
Analyse separable portions and the actual nature of the business.

Issue	Cost model	Fair value model
Subsequent amount	Cost less depreciation and impairment	Reporting-date fair value
Depreciation	Normally yes for depreciable property	No separate depreciation
Fair-value movement	Not routinely booked	Profit or loss
Fair-value disclosure	Generally required	Valuation and movement disclosures

Original example: depreciable rental building, ready for use at year start; cost $600,000; 30-year straight-line life; nil residual; year-end fair value $645,000. Ignore tax and rent.

Cost: Dr depreciation $20,000 / Cr accumulated depreciation $20,000. Carrying amount $580,000.
Fair value: Dr investment property $45,000 / Cr fair-value gain (profit or loss) $45,000. Carrying amount $645,000.

IAS 16 revaluation is different: gains normally go to OCI, subject to reversal rules, and depreciation continues. Do not choose a different policy each year to manage profit.

AASB 140 (December 2021), paragraphs 5-15, 20-35, 56, 75-79. Guide: Module 1, pp. 51-55.
standards.aasb.gov.au/aasb-140-dec-2021

Future value of a single amount

FV = present amount x (1 + r)^n | One amount invested now; value after n periods.

n	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500	1.1600	1.2000
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.2769	1.2996	1.3225	1.3456	1.4400
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.4429	1.4815	1.5209	1.5609	1.7280
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.6305	1.6890	1.7490	1.8106	2.0736
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	1.8424	1.9254	2.0114	2.1003	2.4883
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738	2.0820	2.1950	2.3131	2.4364	2.9860
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107	2.3526	2.5023	2.6600	2.8262	3.5832
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760	2.6584	2.8526	3.0590	3.2784	4.2998
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731	3.0040	3.2519	3.5179	3.8030	5.1598
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	3.3946	3.7072	4.0456	4.4114	6.1917
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	3.8359	4.2262	4.6524	5.1173	7.4301
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	4.3345	4.8179	5.3503	5.9360	8.9161
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	3.8833	4.3635	4.8980	5.4924	6.1528	6.8858	10.6993
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8871	5.5348	6.2613	7.0757	7.9875	12.8392
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	6.2543	7.1379	8.1371	9.2655	15.4070
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	5.3109	6.1304	7.0673	8.1372	9.3576	10.7480	18.4884
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660	7.9861	9.2765	10.7613	12.4677	22.1861
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900	9.0243	10.5752	12.3755	14.4625	26.6233
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	10.1974	12.0557	14.2318	16.7765	31.9480
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463	11.5231	13.7435	16.3665	19.4608	38.3376
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.8038	13.0211	15.6676	18.8215	22.5745	46.0051
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	9.9336	12.1003	14.7138	17.8610	21.6447	26.1864	55.2061
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	11.0263	13.5523	16.6266	20.3616	24.8915	30.3762	66.2474
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.2392	15.1786	18.7881	23.2122	28.6252	35.2364	79.4968
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	13.5855	17.0001	21.2305	26.4619	32.9190	40.8742	95.3962

n = periods; r = rate per period. Multiply the factor by the single amount or equal payment. Independently calculated; rounded to four decimals. Match the rate period to the cash-flow period.

Future value of an ordinary annuity

FV = payment x [(1 + r)^n - 1] / r | Equal deposits at period end; value immediately after the final deposit.

n	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	2.0100	2.0200	2.0300	2.0400	2.0500	2.0600	2.0700	2.0800	2.0900	2.1000	2.1100	2.1200	2.1300	2.1400	2.1500	2.1600	2.2000
3	3.0301	3.0604	3.0909	3.1216	3.1525	3.1836	3.2149	3.2464	3.2781	3.3100	3.3421	3.3744	3.4069	3.4396	3.4725	3.5056	3.6400
4	4.0604	4.1216	4.1836	4.2465	4.3101	4.3746	4.4399	4.5061	4.5731	4.6410	4.7097	4.7793	4.8498	4.9211	4.9934	5.0665	5.3680
5	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051	6.2278	6.3528	6.4803	6.6101	6.7424	6.8771	7.4416
6	6.1520	6.3081	6.4684	6.6330	6.8019	6.9753	7.1533	7.3359	7.5233	7.7156	7.9129	8.1152	8.3227	8.5355	8.7537	8.9775	9.9299
7	7.2135	7.4343	7.6625	7.8983	8.1420	8.3938	8.6540	8.9228	9.2004	9.4872	9.7833	10.0890	10.4047	10.7305	11.0668	11.4139	12.9159
8	8.2857	8.5830	8.8923	9.2142	9.5491	9.8975	10.2598	10.6366	11.0285	11.4359	11.8594	12.2997	12.7573	13.2328	13.7268	14.2401	16.4991
9	9.3685	9.7546	10.1591	10.5828	11.0266	11.4913	11.9780	12.4876	13.0210	13.5795	14.1640	14.7757	15.4157	16.0853	16.7858	17.5185	20.7989
10	10.4622	10.9497	11.4639	12.0061	12.5779	13.1808	13.8164	14.4866	15.1929	15.9374	16.7220	17.5487	18.4197	19.3373	20.3037	21.3215	25.9587
11	11.5668	12.1687	12.8078	13.4864	14.2068	14.9716	15.7836	16.6455	17.5603	18.5312	19.5614	20.6546	21.8143	23.0445	24.3493	25.7329	32.1504
12	12.6825	13.4121	14.1920	15.0258	15.9171	16.8699	17.8885	18.9771	20.1407	21.3843	22.7132	24.1331	25.6502	27.2707	29.0017	30.8502	39.5805
13	13.8093	14.6803	15.6178	16.6268	17.7130	18.8821	20.1406	21.4953	22.9534	24.5227	26.2116	28.0291	29.9847	32.0887	34.3519	36.7862	48.4966
14	14.9474	15.9739	17.0863	18.2919	19.5986	21.0151	22.5505	24.2149	26.0192	27.9750	30.0949	32.3926	34.8827	37.5811	40.5047	43.6720	59.1959
15	16.0969	17.2934	18.5989	20.0236	21.5786	23.2760	25.1290	27.1521	29.3609	31.7725	34.4054	37.2797	40.4175	43.8424	47.5804	51.6595	72.0351
16	17.2579	18.6393	20.1569	21.8245	23.6575	25.6725	27.8881	30.3243	33.0034	35.9497	39.1899	42.7533	46.6717	50.9804	55.7175	60.9250	87.4421
17	18.4304	20.0121	21.7616	23.6975	25.8404	28.2129	30.8402	33.7502	36.9737	40.5447	44.5008	48.8837	53.7391	59.1176	65.0751	71.6730	105.9306
18	19.6147	21.4123	23.4144	25.6454	28.1324	30.9057	33.9990	37.4502	41.3013	45.5992	50.3959	55.7497	61.7251	68.3941	75.8364	84.1407	128.1167
19	20.8109	22.8406	25.1169	27.6712	30.5390	33.7600	37.3790	41.4463	46.0185	51.1591	56.9395	63.4397	70.7494	78.9692	88.2118	98.6032	154.7400
20	22.0190	24.2974	26.8704	29.7781	33.0660	36.7856	40.9955	45.7620	51.1601	57.2750	64.2028	72.0524	80.9468	91.0249	102.4436	115.3797	186.6880
21	23.2392	25.7833	28.6765	31.9692	35.7193	39.9927	44.8652	50.4229	56.7645	64.0025	72.2651	81.6987	92.4699	104.7684	118.8101	134.8405	225.0256
22	24.4716	27.2990	30.5368	34.2480	38.5052	43.3923	49.0057	55.4568	62.8733	71.4027	81.2143	92.5026	105.4910	120.4360	137.6316	157.4150	271.0307
23	25.7163	28.8450	32.4529	36.6179	41.4305	46.9958	53.4361	60.8933	69.5319	79.5430	91.1479	104.6029	120.2048	138.2970	159.2764	183.6014	326.2369
24	26.9735	30.4219	34.4265	39.0826	44.5020	50.8156	58.1767	66.7648	76.7898	88.4973	102.1742	118.1552	136.8315	158.6586	184.1678	213.9776	392.4842
25	28.2432	32.0303	36.4593	41.6459	47.7271	54.8645	63.2490	73.1059	84.7009	98.3471	114.4133	133.3339	155.6196	181.8708	212.7930	249.2140	471.9811

n = periods; r = rate per period. Multiply the factor by the single amount or equal payment. Independently calculated; rounded to four decimals. For beginning-of-period payments, multiply by (1 + r). The resulting value is at time n, one period after the last payment.

Present value of a single amount

PV = future amount x (1 + r)^(-n) | One amount received after n periods; value today.

n	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695	0.7561	0.7432	0.6944
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750	0.6575	0.6407	0.5787
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921	0.5718	0.5523	0.4823
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194	0.4972	0.4761	0.4019
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556	0.4323	0.4104	0.3349
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996	0.3759	0.3538	0.2791
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506	0.3269	0.3050	0.2326
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075	0.2843	0.2630	0.1938
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697	0.2472	0.2267	0.1615
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366	0.2149	0.1954	0.1346
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076	0.1869	0.1685	0.1122
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821	0.1625	0.1452	0.0935
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597	0.1413	0.1252	0.0779
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401	0.1229	0.1079	0.0649
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229	0.1069	0.0930	0.0541
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078	0.0929	0.0802	0.0451
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946	0.0808	0.0691	0.0376
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829	0.0703	0.0596	0.0313
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728	0.0611	0.0514	0.0261
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638	0.0531	0.0443	0.0217
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560	0.0462	0.0382	0.0181
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491	0.0402	0.0329	0.0151
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431	0.0349	0.0284	0.0126
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378	0.0304	0.0245	0.0105

n = periods; r = rate per period. Multiply the factor by the single amount or equal payment. Independently calculated; rounded to four decimals. Match the rate period to the cash-flow period.

Present value of an ordinary annuity

PV = payment x [1 - (1 + r)^(-n)] / r | Equal payments at period end; value one period before the first payment.

n	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	20%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772	0.8696	0.8621	0.8333
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901	1.6681	1.6467	1.6257	1.6052	1.5278
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018	2.3612	2.3216	2.2832	2.2459	2.1065
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373	2.9745	2.9137	2.8550	2.7982	2.5887
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048	3.5172	3.4331	3.3522	3.2743	2.9906
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114	3.9975	3.8887	3.7845	3.6847	3.3255
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638	4.4226	4.2883	4.1604	4.0386	3.6046
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676	4.7988	4.6389	4.4873	4.3436	3.8372
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282	5.1317	4.9464	4.7716	4.6065	4.0310
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502	5.4262	5.2161	5.0188	4.8332	4.1925
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377	5.6869	5.4527	5.2337	5.0286	4.3271
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944	5.9176	5.6603	5.4206	5.1971	4.4392
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235	6.1218	5.8424	5.5831	5.3423	4.5327
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282	6.3025	6.0021	5.7245	5.4675	4.6106
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109	6.4624	6.1422	5.8474	5.5755	4.6755
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740	6.6039	6.2651	5.9542	5.6685	4.7296
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196	6.7291	6.3729	6.0472	5.7487	4.7746
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.7016	7.2497	6.8399	6.4674	6.1280	5.8178	4.8122
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658	6.9380	6.5504	6.1982	5.8775	4.8435
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694	7.0248	6.6231	6.2593	5.9288	4.8696
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	8.0751	7.5620	7.1016	6.6870	6.3125	5.9731	4.8913
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	8.1757	7.6446	7.1695	6.7429	6.3587	6.0113	4.9094
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	8.2664	7.7184	7.2297	6.7921	6.3988	6.0442	4.9245
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	8.3481	7.7843	7.2829	6.8351	6.4338	6.0726	4.9371
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	8.4217	7.8431	7.3300	6.8729	6.4641	6.0971	4.9476

n = periods; r = rate per period. Multiply the factor by the single amount or equal payment. Independently calculated; rounded to four decimals. For beginning-of-period payments, multiply by (1 + r).