Mila

Undergraduate Practice Test 1

CORRECTED EDITION · VERSION 1 · REVIEWED 7 NOVEMBER 2026

50 questions · Original question sequence and Test 1 / Test 2 identity retained.

Intended applicants: Undergraduate Bachelor/general-test applicants. Not dedicated Law-test preparation.

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Foundational independent practice, not a validated prediction of admissions difficulty. Repeated content across tests is intentionally retained. No claim of 200 unique questions.

Current official preparation, rules and test format:

Bocconi official test and preparation page

The original documents suggest 75 minutes. This is an optional practice duration, not a verified official requirement. Consult the official page for current timing, scoring and calculator rules.

Mathematics · 24 questions

1. If 4x - 4 = 32, what is x?

A. 9

B. 11

C. 8

D. 10

E. 7

2. An item priced at EUR 160 is increased by 27% and then reduced by 27%. What is the final price, rounded to the nearest cent?

A. 160

B. 116.8

C. 203.2

D. 148.34

E. 13

3. A sequence has nth term 5n + 4n. What is the value of the term when n = 3?

A. 37

B. 27

C. 30

D. 22

E. 31

4. A rectangle has width 4 cm and perimeter 20 cm. What is its area?

A. 20

B. 24

C. 18

D. 10

E. 28

5. A bag contains 4 red and 4 blue tokens. Two tokens are drawn uniformly at random, without replacement. What is the probability both are red?

A. 24

B. 12/56

C. 16/64

D. 4/8

E. 8/56

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6. What is the slope of the line through (-2, -1) and (1, 5)?

A. 3
B. 1
C. -2
D. 0.5
E. 2

7. What is the positive value of x if x^2 = 64?

A. 7
B. 10
C. 9
D. 6
E. 8

8. Pipe A alone fills an empty tank in 4 hours and Pipe B alone fills it in 5 hours. Both operate simultaneously at constant rates with no outflow. How many hours are needed? Round to 2 decimal places.

A. 3
B. 2
C. 4.5
D. 2.22
E. 9

9. After a 10% discount, what is the price of an item originally costing EUR 120?

A. 110
B. 132
C. 108
D. 109.09
E. 12

10. One solution of (x - 2)(x + 2) = 0 is -2. What is the other solution?

A. 2
B. -2
C. 4
D. 15
E. 3

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11. If 2x - 1 = 21, what is x?

A. 9

B. 13

C. 11

D. 10

E. 12

12. An item priced at EUR 80 is increased by 35% and then reduced by 35%. What is the final price?

A. 80

B. 108

C. 52

D. 23

E. 70.2

13. A sequence has nth term 5n + 3n. What is the value of the term when n = 5?

A. 35

B. 43

C. 45

D. 40

E. 50

14. A rectangle has width 9 cm and perimeter 50 cm. What is its area?

A. 25

B. 144

C. 50

D. 128

E. 153

15. A bag contains 6 red and 6 blue tokens. Two tokens are drawn uniformly at random, without replacement. What is the probability both are red?

A. 30/132

B. 12/132

C. 7

D. 36/144

E. 6/12

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16. What is the slope of the line through (3, 1) and (8, 31)?

A. 7
B. 5
C. 0.17
D. -6
E. 6

17. What is the positive value of x if x^2 = 25?

A. 4
B. 6
C. 7
D. 3
E. 5

18. Pipe A alone fills an empty tank in 7 hours and Pipe B alone fills it in 3 hours. Both operate simultaneously at constant rates with no outflow. How many hours are needed? Round to 1 decimal place.

A. 1.5
B. 5.5
C. 5
D. 10
E. 2.1

19. After a 25% discount, what is the price of an item originally costing EUR 120?

A. 150
B. 96
C. 30
D. 95
E. 90

20. One solution of (x - 5)(x + 5) = 0 is -5. What is the other solution?

A. 5
B. 10
C. 23
D. 24
E. -5

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21. If 4x - 1 = 27, what is x?

A. 8

B. 7

C. 6

D. 9

E. 5

22. An item priced at EUR 240 is increased by 26% and then reduced by 26%. What is the final price, rounded to the nearest cent?

A. 21

B. 223.78

C. 177.6

D. 302.4

E. 240

23. A sequence has nth term 2n + 7n. What is the value of the term when n = 3?

A. 31

B. 27

C. 25

D. 34

E. 30

24. A rectangle has width 7 cm and perimeter 44 cm. What is its area?

A. 22

B. 112

C. 105

D. 44

E. 90

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Reading comprehension · 11 questions

Remote work

The expansion of remote work has changed how firms think about office space and recruitment. A wider geographic hiring pool can help employers find specialized skills, while employees may value reduced commuting time. Yet remote arrangements can also make informal learning more difficult, especially for new staff who benefit from observing experienced colleagues. Some firms therefore use hybrid schedules, attempting to preserve flexibility while creating regular opportunities for collaboration. The effectiveness of such systems depends less on the number of office days alone than on whether teams coordinate those days and use them for activities that benefit from face-to-face interaction.

25. Which benefit of remote work is explicitly mentioned?

A. A wider geographic hiring pool

B. Guaranteed higher salaries

C. No need for management

D. Elimination of training

E. Lower product prices

26. Why may new staff face a disadvantage remotely?

A. They cannot use computers

B. Informal learning by observing colleagues may be harder

C. They are legally barred from meetings

D. They work fewer hours

E. They cannot communicate in writing

27. What does the passage suggest matters for hybrid work?

A. Only the exact number of office days

B. Coordinating office days around useful face-to-face activities

C. Closing all offices

D. Hiring only locally

E. Avoiding collaboration

AI and productivity

Generative artificial intelligence can reduce the time required for some writing, coding, and analytical tasks, but its effect on productivity is not automatic. Workers must learn when to rely on a model, when to verify its output, and when a task is better completed without it. In occupations where mistakes are costly, time saved in drafting may be partly offset by additional checking. This means that organizations evaluating AI should measure not only speed but also error rates, revision time, and the quality of final decisions. The largest gains may arise when workflows are redesigned rather than when an existing process simply adds an AI tool.

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28. What is the central claim?

A. AI always increases productivity

B. AI productivity gains depend on use, verification, and workflow design

C. AI should never be used in costly-error jobs

D. Drafting speed is the only useful metric

E. AI eliminates revision

29. Why can drafting time savings be partly offset?

A. Models require commuting

B. Additional checking may be needed

C. Workers stop writing

D. Hardware becomes slower

E. Firms must hire more drivers

30. Which evaluation approach is recommended?

A. Measure speed only

B. Measure error rates, revision time, and final decision quality as well as speed

C. Ignore output quality

D. Count model prompts only

E. Measure office attendance

Carbon disclosure

Investors increasingly ask companies to disclose greenhouse-gas emissions and climate-related risks. Standardized disclosure can make firms easier to compare, but measurement remains difficult, particularly for emissions generated across supply chains. A company may reduce its reported direct emissions by outsourcing an activity without reducing total emissions associated with its products. For this reason, analysts often distinguish between direct operational emissions and broader value-chain emissions. Better disclosure does not by itself guarantee lower emissions, but it can make inconsistencies more visible and improve the information available to investors and regulators.

31. Why can direct-emissions figures be misleading?

A. Companies cannot measure electricity

B. Outsourcing may lower reported direct emissions without lowering product-related total emissions

C. Investors never compare firms

D. Supply chains contain no emissions

E. Regulators ban disclosure

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32. What distinction do analysts often make?

A. Domestic vs foreign investors
B. Direct operational vs broader value-chain emissions
C. Large vs small offices
D. Profits vs revenue
E. Public vs private transport

33. What does the passage say better disclosure can do?

A. Guarantee lower emissions
B. Make inconsistencies more visible and improve information
C. Eliminate supply chains
D. Replace regulation
E. Set carbon prices automatically

Urban pricing

Several cities have introduced congestion charges for vehicles entering crowded central districts. The policy is intended to reduce traffic delays and local air pollution while encouraging commuters to use public transport. Critics argue that the charge can fall disproportionately on workers whose schedules or locations make public transport impractical. Supporters respond that revenue can be reinvested in transit, making alternatives more reliable over time. Evidence from early adopters suggests that traffic volumes often fall soon after implementation, though the size and persistence of the effect depend on pricing, exemptions, and the quality of substitute transport.

34. What is the main purpose of congestion charges as described?

A. To increase car ownership
B. To reduce congestion and pollution while encouraging transit
C. To eliminate all central-city travel
D. To finance private parking
E. To reduce fuel prices

35. Which concern is attributed to critics?

A. Charges may burden some workers with weak transit alternatives
B. Traffic never changes after pricing
C. Transit revenue must be returned to drivers
D. Air pollution is unrelated to traffic
E. Exemptions are always illegal

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Numerical reasoning · 6 questions

Division	Revenue 2025	Revenue 2026	Employees
A	120	138	60
B	150	165	75
C	90	108	45
D	140	147	70

Revenue is measured in arbitrary units. Employee counts are the headcounts used for 2026 revenue-per-employee calculations.

36. Which division had the largest percentage revenue growth from 2025 to 2026?

A. A

B. B

C. C

D. D

E. A and C

37. What is total 2026 revenue across all divisions?

A. 548

B. 558

C. 568

D. 578

E. 588

38. What is 2026 revenue per employee for Division B?

A. 2.0

B. 2.1

C. 2.2

D. 2.3

E. 2.4

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39. If Division D revenue rises 10% from 2026, what is the new figure?

A. 154.7
B. 158.7
C. 161.7
D. 164.7
E. 167.7

40. By how much did combined revenue of A and C increase?

A. 30
B. 32
C. 34
D. 36
E. 38

41. Employees in A and D together are what percentage of all employees?

A. 48%
B. 50%
C. 52%
D. 54%
E. 56%

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Critical thinking · 9 questions

42. All analysts in Team X know Python. Mira is an analyst in Team X. Which conclusion must be true?

A. Mira knows Python
B. Mira knows R
C. Everyone who knows Python is in Team X
D. Mira manages Team X
E. No conclusion

43. A retailer observes that stores with longer opening hours have higher sales. Which fact most weakens the claim that longer hours cause higher sales?

A. The high-sales stores are also located in much busier districts
B. Some customers shop in the evening
C. Staff costs rise with hours
D. Stores sell similar products
E. Opening hours are published online

44. A company wants to know whether a training program raises productivity. Which design is strongest?

A. Compare trained workers this year with all workers five years ago
B. Randomly assign similar workers to training and control groups
C. Ask trained workers whether they liked it
D. Measure productivity only after training
E. Compare two different industries

45. If every project that exceeds budget is reviewed, and Project K was not reviewed, what follows?

A. K exceeded budget
B. K did not exceed budget
C. K was profitable
D. K was cancelled
E. Nothing can be inferred

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46. A survey of app users finds 80% satisfaction. What is the biggest concern if only users who opened a feedback pop-up could respond?

A. Selection bias
B. Arithmetic error
C. Seasonality is impossible
D. The sample is too large
E. Satisfaction cannot be measured

47. Premise: No electric buses use diesel. Some city buses are electric. Which must be true?

A. Some city buses do not use diesel
B. All city buses are electric
C. No city bus uses diesel
D. Some diesel buses are electric
E. All electric vehicles are buses

48. A firm cuts the price of a single product and its unit sales rise. Which additional information is sufficient to determine whether revenue from that product rose?

A. The percentage price change and percentage quantity change
B. The CEO salary
C. Competitor headcount
D. Office rent
E. Number of product colors

49. An argument concludes that a new library caused an increase in neighborhood literacy because literacy rose after the library opened. Which assumption is required for this inference?

A. Without the new library, literacy would not have risen to the same extent over the same period.
B. Libraries are always profitable
C. Every resident visited the library
D. Literacy was zero before
E. The library has more than 100 books

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50. Exactly one of statements P and Q is true. P is false. What can be concluded?

A. Q is true

B. Q is false

C. Both are false

D. Both are true

E. Nothing

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Answer key

Question numbers and answer-option positions follow the original test.

1. A	2. D	3. B	4. B	5. B
6. E	7. E	8. D	9. C	10. A
11. C	12. E	13. D	14. B	15. A
16. E	17. E	18. E	19. E	20. A
21. B	22. B	23. B	24. C	25. A
26. B	27. B	28. B	29. B	30. B
31. B	32. B	33. B	34. B	35. A
36. C	37. B	38. C	39. C	40. D
41. C	42. A	43. A	44. B	45. B
46. A	47. A	48. A	49. A	50. A

Worked answers and explanations

1. A — $4x=36$, so $x=9$.

2. D — $160 \times 1.27 \times 0.73 = 148.336$; nearest-cent rounding gives EUR 148.34.

3. B — $5n+4n=9n$; at $n=3$ this is 27. The printed n is multiplication, not an exponent.

4. B — Length = $20/2-4 = 6$ cm; area = $4\times6 = 24$ square centimetres.

5. B — Uniform random draws without replacement: $(4/8)(3/7)=12/56=3/14$.

6. E — Slope = $(5-(-1))/(1-(-2)) = 6/3 = 2$.

7. E — The positive square root of 64 is 8.

8. D — Combined rate = $1/4+1/5=9/20$ tank/hour; time = $20/9 = 2.22$ hours to two decimals.

9. C — 120×0.90 = EUR 108.

10. A — The roots are 2 and -2; the other root is 2.

11. C — $2x=22$, so $x=11$.

12. E — $80\times1.35\times0.65$ = EUR 70.20.

13. D — $5n+3n=8n$; at $n=5$ this is 40.

14. B — Length = $50/2-9 = 16$; area = $9\times16 = 144$ square centimetres.

15. A — $(6/12)(5/11)=30/132=5/22$.

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16. E — Slope = (31−1)/(8−3)=30/5=6.

17. E — The positive square root of 25 is 5.

18. E — Time = 1/(1/7+1/3)=21/10=2.1 hours.

19. E — 120×0.75 = EUR 90.

20. A — The roots are 5 and −5; the other root is 5.

21. B — 4x=28, so x=7.

22. B — 240×1.26×0.74=223.776; nearest-cent rounding gives EUR 223.78.

23. B — 2n+7n=9n; at n=3 this is 27.

24. C — Length = 44/2−7=15; area = 7×15=105 square centimetres.

25. A — The passage explicitly names a wider geographic hiring pool.

26. B — Remote work can reduce opportunities for new staff to learn by observing experienced colleagues.

27. B — Coordinated office days used for valuable face-to-face activities matter, not just the number of days.

28. B — AI productivity gains depend on appropriate use, verification and workflow design; they are not automatic.

29. B — Additional checking, especially where errors are costly, can offset drafting-time savings.

30. B — The passage recommends speed, error rates, revision time and final decision quality together.

31. B — Outsourcing can reduce reported direct emissions without reducing total product-related emissions.

32. B — The passage distinguishes direct operational emissions from broader value-chain emissions.

33. B — Disclosure can reveal inconsistencies and improve information, but does not guarantee lower emissions.

34. B — The objectives are reduced congestion and local pollution and increased public transport use.

35. A — Critics identify workers whose schedules or locations make public transport impractical.

36. C — Growth: A 15%, B 10%, C 20%, D 5%; C is greatest.

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37. B — 138+165+108+147=558 revenue units.

38. C — 165/75=2.2 revenue units per 2026 employee.

39. C — 147×1.10=161.7 revenue units.

40. D — (138+108)−(120+90)=36 revenue units.

41. C — (60+70)/(60+75+45+70)=130/250=52%.

42. A — Mira belongs to the stated class of analysts who know Python.

43. A — Busier locations could explain both longer hours and higher sales; this is confounding.

44. B — Random assignment to training and control groups reduces systematic differences between groups.

45. B — Over budget implies reviewed; its contrapositive is not reviewed implies not over budget.

46. A — Users who open the pop-up may differ from the full user population, creating selection bias.

47. A — The city buses asserted to be electric cannot use diesel.

48. A — For proportional price fall p and quantity rise q, revenue multiplier is (1−p)(1+q). It exceeds 1 exactly when revenue rises.

49. A — The causal inference assumes literacy would not have risen to the same extent without the library; other causes may still contribute.

50. A — Exactly one of P and Q is true. Since P is false, Q is true.

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