

Test 5B [2020-01-19] Definite integral

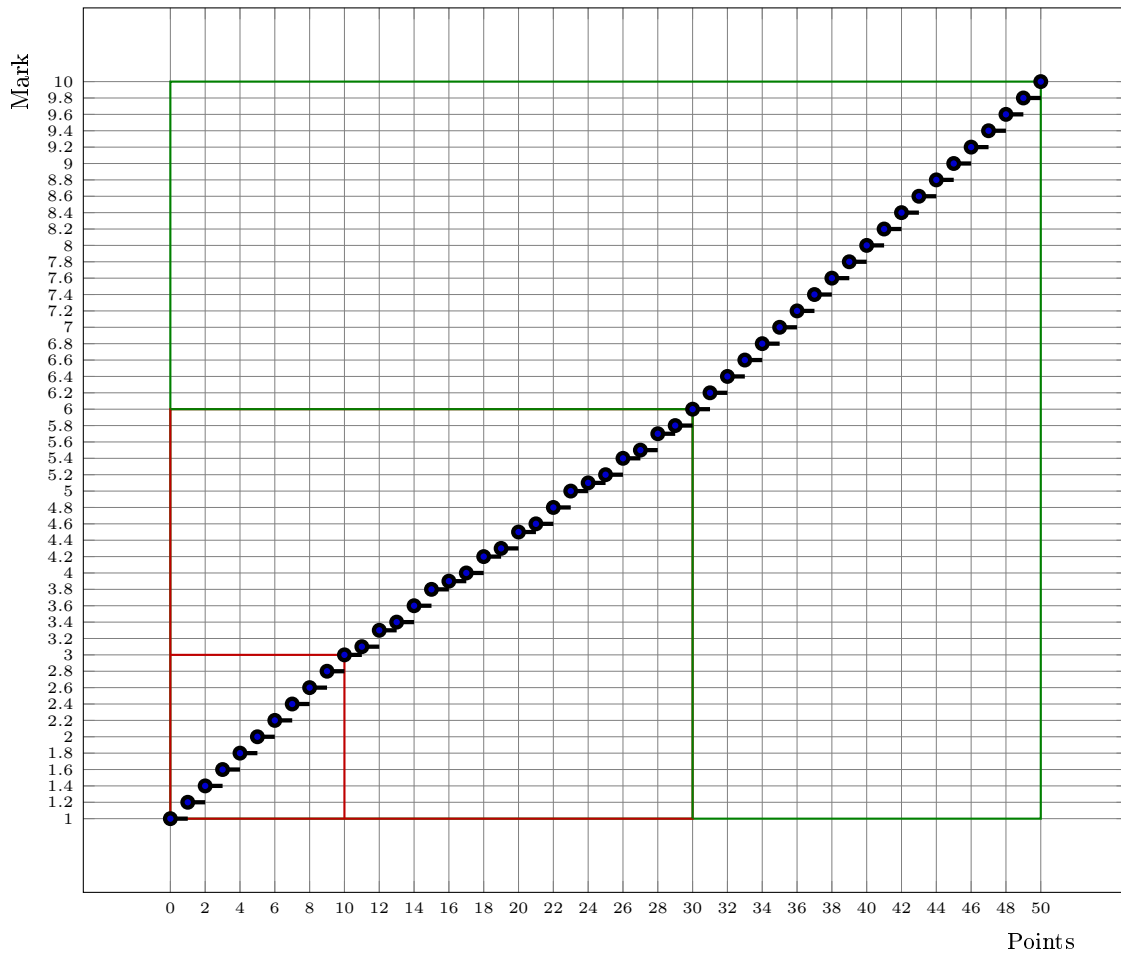


/ Analysis / Integrals / Definite	1
/ Analysis / Integrals / Definite / By parts	1
/ Analysis / Integrals / Definite / By substitution ..	1
/ Analysis / Integrals / Definite / Improper	2
/ Analysis / Integrals / Definite / Mean value	2
/ Analysis / Integrals / Definite / Rational functions:	3
<hr/>	
Total number of questions for each questionnaire:	10
Answers for each question:	5
Assessed questionnaires:	6/9
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Assessment of difficulty levels:	×
Keep categories separate:	×
Same questions for everyone:	✓

Absentees' list: **Chevalley** Claude, **de Possel** René, **Delsarte** Jean.

ID	Family name	Given name	Mark
1	Cartan	Henri	9,0
3	Coulomb	Jean	4,8
6	Dieudonné	Jean	5,8
8	Ehresmann	Charles	6,4
10	Mandelbrojt	Szolem	5,5
11	Weil	André	9,8

Assessment graph



Points:	0	10	30	50
Mark:	1	3	6	10

(Pass requirements: 5–6 right answers. Marks step: 0,1)

Marks distribution

[1-2)	<input type="text" value="0"/>
[2-3)	<input type="text" value="0"/>
[3-4)	<input type="text" value="0"/>
[4-5)	<input type="text" value="1"/>
[5-6)	<input type="text" value="2"/>
[6-7)	<input type="text" value="1"/>
[7-8)	<input type="text" value="0"/>
[8-9)	<input type="text" value="0"/>
[9-10]	<input type="text" value="2"/>

Arithmetic mean: 6,9. Standard deviation: 1,9. Median: 6,1.

Cartan, Henri — Test 5B [2020-01-19] Definite integral

ID:1 Answers' list (✓:9 0:0 ✗:1 Points:45 **Mark:9**)

	01	02	03	04	05	06	07	08	09	10
Right	D	C	B	E	C	D	C	D	D	A
Given	✓	✓	✓	✓	✓	✓	D	✓	✓	✓

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By parts	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	100%	0%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	100%	0%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	67%	0%	33%	3

Coulomb, Jean — Test 5B [2020-01-19] Definite integral

ID:3 Answers' list (✓:3 0:6 ✗:1 Points:22 **Mark:4,8**)

	01	02	03	04	05	06	07	08	09	10
Right	A	A	E	D	D	C	E	C	A	B
Given		✓	✓			B				✓

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By parts	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	0%	100%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	50%	50%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	33%	33%	33%	3

Dieudonné, Jean — Test 5B [2020-01-19] Definite integral

ID:6 Answers' list (✓:5 0:4 ✗:1 Points:29 **Mark:5,8**)

	01	02	03	04	05	06	07	08	09	10
Right	A	E	D	D	E	D	C	B	B	C
Given	✓	✗	✓		✓	✓			✓	

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / By parts	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	100%	0%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	0%	100%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	33%	33%	33%	3

Ehresmann, Charles — Test 5B [2020-01-19] Definite integral

ID:8 Answers' list (✓:5 ∅:5 ✗:0 Points:32 Mark:6,4)

	01	02	03	04	05	06	07	08	09	10
Right	A	E	E	C	D	D	E	A	A	E
Given	✓	✓			✓			✓		✓

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By parts	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	0%	100%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	50%	50%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	67%	33%	0%	3

Mandelbrojt, Szolem — Test 5B [2020-01-19] Definite integral

ID:10 Answers' list (✓:4 ∅:5 ✗:1 Points:27 Mark:5,5)

	01	02	03	04	05	06	07	08	09	10
Right	B	C	D	E	C	D	A	A	A	A
Given	C		✓		✓	✓	✓			

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	0%	0%	100%	1
Mathematics / Analysis / Integrals / Definite / By parts	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	0%	100%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	50%	50%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	50%	50%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	67%	33%	0%	3

Weil, André — Test 5B [2020-01-19] Definite integral

ID:11 Answers' list (✓:10 ∅:0 ✗:0 Points:49 Mark:9,8)

	01	02	03	04	05	06	07	08	09	10
Right	D	D	E	C	D	E	E	E	D	C
Given	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Penalty points: -1 (delay in delivery)

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By parts	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / By substitution	100%	0%	0%	1
Mathematics / Analysis / Integrals / Definite / Improper	100%	0%	0%	2
Mathematics / Analysis / Integrals / Definite / Mean value	100%	0%	0%	2
Mathematics / Analysis / Integrals / Definite / Rational functions	100%	0%	0%	3

Questions Statistics

1. Mathematics / Analysis / Integrals / Definite [1 questions]

1.1. If $\int_{-2}^2 (x^7 + k) dx = 16$, then $k =$

Question assessed in 6 questionnaires. [✓:67% ∅:17% ✗:17%]

4: 4

1: [empty answer]

0: [null answer]

1: -12

0: 0

0: -4

0: 12

2. Mathematics / Analysis / Integrals / Definite / By parts [1 questions]

2.1. Evaluate:

$$\int_0^1 x e^x dx.$$

Question assessed in 6 questionnaires. [✓:67% ∅:33% ✗:0%]

4: 1

2: [empty answer]

0: [null answer]

0: 0

0: e 0: $2e - 1$

0: None of the others.

3. Mathematics / Analysis / Integrals / Definite / By substitution [1 questions]

3.1.

$$\int_0^8 \frac{dx}{\sqrt{1+x}} =$$

Question assessed in 6 questionnaires. [✓:50% ∅:50% ✗:0%]

3: 4

3: [empty answer]

0: [null answer]

0: 1

0: $\frac{3}{2}$

0: 2

0: 6

4. Mathematics / Analysis / Integrals / Definite / Improper [2 questions]

4.1.

$$\int_{-1}^1 \frac{dx}{\sqrt[3]{x^2}} =$$

Question assessed in 6 questionnaires. [✓:50% ∅:50% ✗:0%]

3: 6

3: [empty answer]

0: [null answer]

0: 0

0: Diverges to infinity.

0: Does not exist.

0: 2

4.2.

$$\int_0^{\frac{\pi}{2}} \frac{dx}{\cos^2 x} =$$

Question assessed in 6 questionnaires. [✓:67% ∅:33% ✗:0%]

4: Diverges to infinity.

2: [empty answer]

0: [null answer]

0: 1

0: 2

0: Does not exist.

0: $\frac{\pi}{4}$

5. Mathematics / Analysis / Integrals / Definite / Mean value [2 questions]

5.1. What is the mean value of $3t^3 - t^2$ over the interval $-1 \leq t \leq 2$?

Question assessed in 6 questionnaires. [✓:83% ∅:17% ✗:0%]

5: $\frac{11}{4}$

1: [empty answer]

0: [null answer]

0: $\frac{7}{2}$

0: 8

0: $\frac{33}{4}$

0: 16

5.2. The mean value of \sqrt{x} over the interval $0 \leq x \leq 2$ is:

Question assessed in 6 questionnaires. [✓:33% ∅:67% ✗:0%]

2: $\frac{2}{3}\sqrt{2}$

4: [empty answer]

0: [null answer]

0: $\frac{1}{3}\sqrt{2}$

0: $\frac{1}{2}\sqrt{2}$

0: 1

0: $\frac{4}{3}\sqrt{2}$

6. Mathematics / Analysis / Integrals / Definite / Rational functions [3 questions]

6.1. Evaluate the integral:

$$\int_0^1 \frac{x}{x^2 + 9} dx.$$

Question assessed in 6 questionnaires. [✓:67% ∅:33% ✗:0%]

4: $\frac{1}{2}(\ln 10 - \ln 9)$

2: [empty answer]

0: [null answer]

0: $\frac{1}{2}(\ln 1 - \ln 0)$

0: $\ln 10 - \ln 9$

0: $\ln 1 - \ln 0$

0: None of the others.

6.2. For which value of p does $\int_0^1 \frac{1}{x^p} dx = 1.25$?

Question assessed in 6 questionnaires. [✓:67% ∅:0% ✗:33%]

4: $p = 0.2$

0: [empty answer]

1: [null answer]

0: $p = 0.5$

1: $p = 2$

0: $p = 2.5$

0: None of the others.

6.3. Evaluate the integral:

$$\int_0^4 \frac{x}{x+9} dx.$$

Question assessed in 6 questionnaires. [✓:50% ∅:33% ✗:17%]

3: $4 + 18 \ln 3 - 9 \ln 13$

2: [empty answer]

0: [null answer]

0: $13 + \ln 3 - 18 \ln 2$

0: $\frac{1}{9 \ln 13} - \ln 3$

1: $4 - 26 \ln 3 + 3 \ln 18$

0: $\frac{4}{13}$

Categories Statistics

Category	✓	∅	✗	Questions
Mathematics / Analysis / Integrals / Definite	67%	17%	17%	6
Mathematics / Analysis / Integrals / Definite / By parts	67%	33%	0%	6
Mathematics / Analysis / Integrals / Definite / By substitution	50%	50%	0%	6
Mathematics / Analysis / Integrals / Definite / Improper	58%	42%	0%	12
Mathematics / Analysis / Integrals / Definite / Mean value	58%	42%	0%	12
Mathematics / Analysis / Integrals / Definite / Rational functions	61%	22%	17%	18