

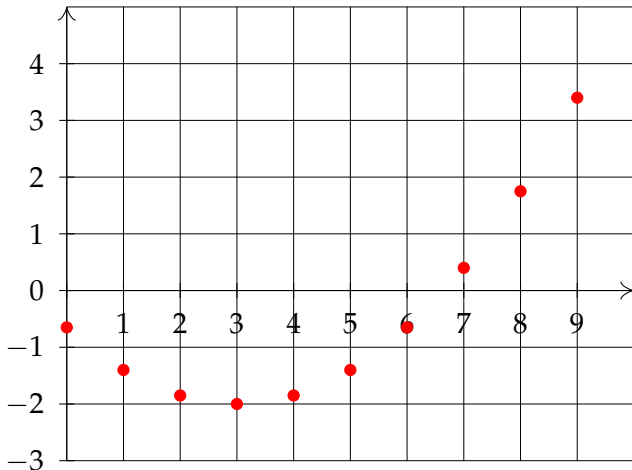
Suites numériques

Série 11

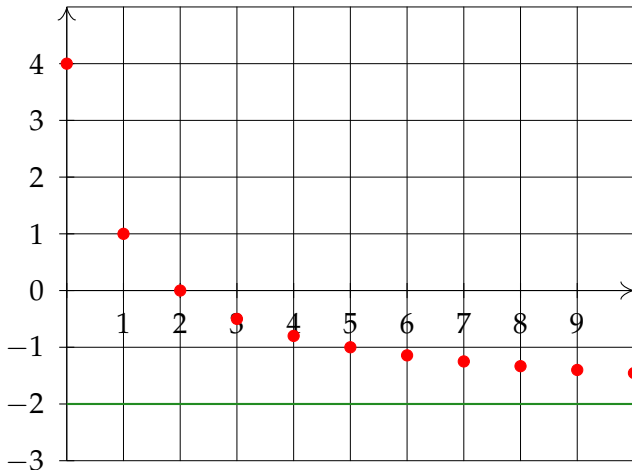
Calcul mental et automatismes – IREM de Clermont-Ferrand

Dans chacun des cas suivants,
conjecturer (si elle existe) la limite
de la suite.

Question (1)



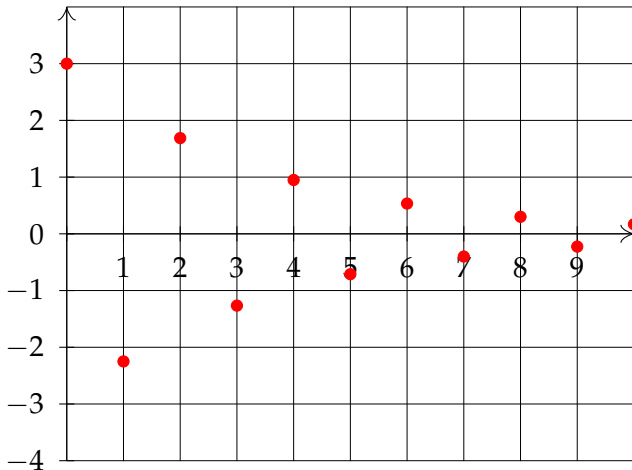
Question (2)



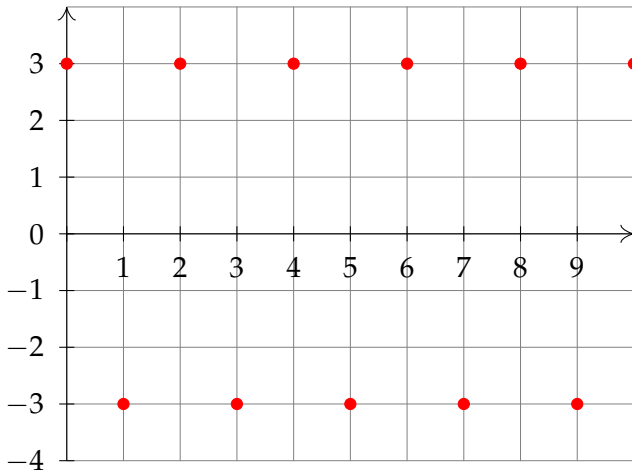
Question (3)

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	0		10	40
3	1	-2,75		20	-720
4	2	0		30	-3780
5	3	6,75		40	-10640
6	4	16		50	-22800
7	5	26,25		60	-41760
8	6	36		70	-69020
9	7	43,75		80	-106080
10	8	48		90	-154440
11	9	47,25		100	-215600

Question (4)



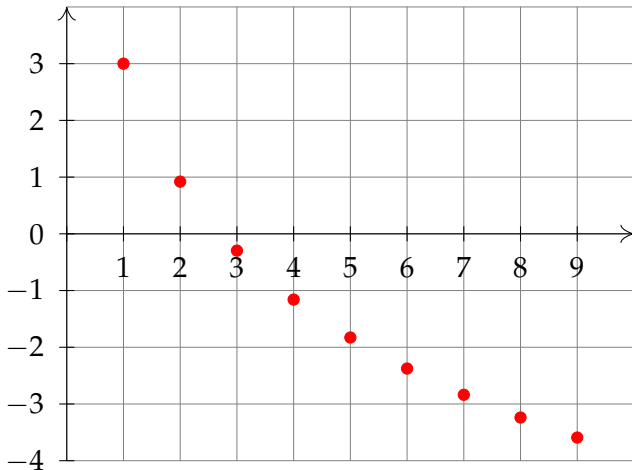
Question (5)



Question (6)

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	-500		10	-495
3	1	-499,5		20	-490
4	2	-499		30	-485
5	3	-498,5		40	-480
6	4	-498		50	-475
7	5	-497,5		60	-470
8	6	-497		70	-465
9	7	-496,5		80	-460
10	8	-496		90	-455
11	9	-495,5		100	-450

Question (7)



Question (8)

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	3		10	3
3	1	-3		11	-3
4	2	3		12	3
5	3	-3		13	-3
6	4	3		14	3
7	5	-3		15	-3
8	6	3		16	3
9	7	-3		17	-3
10	8	3		18	3
11	9	-3		19	-3

Question (9)

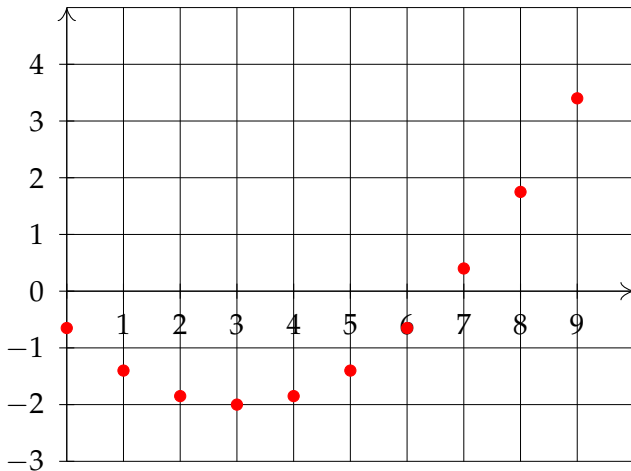
	A	B	C	D	E
1	n	u_n		n	u_n
2	1	3		11	2,090909091
3	2	2,5		12	2,083333333
4	3	2,333333333		13	2,076923077
5	4	2,25		14	2,071428571
6	5	2,2		15	2,066666667
7	6	2,166666667		16	2,0625
8	7	2,142857143		17	2,058823529
9	8	2,125		18	2,055555556
10	9	2,111111111		19	2,052631579
11	10	2,1		20	2,05

Question (10)

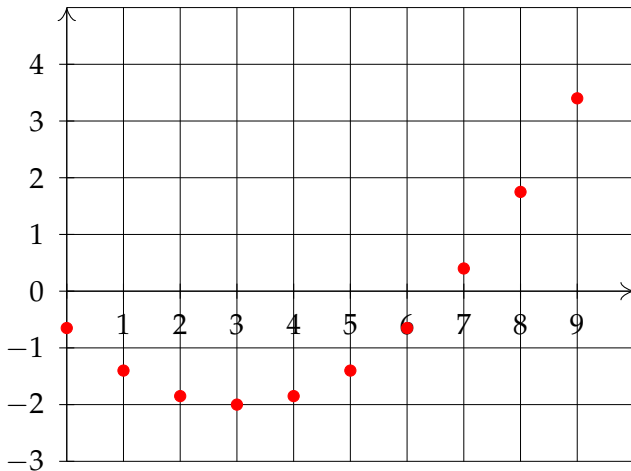
	A	B	C	D	E
1	n	u_n		n	u_n
2	0	1		10	0,107374182
3	1	-0,8		20	0,011529215
4	2	0,64		30	0,00123794
5	3	-0,512		40	0,000132923
6	4	0,4096		50	1,42725E-05
7	5	-0,32768		60	1,5325E-06
8	6	0,262144		70	1,6455E-07
9	7	-0,2097152		80	1,76685E-08
10	8	0,16777216		90	1,89714E-09
11	9	-0,13421773		100	2,03704E-10

CORRECTION

Question (1) – Correction

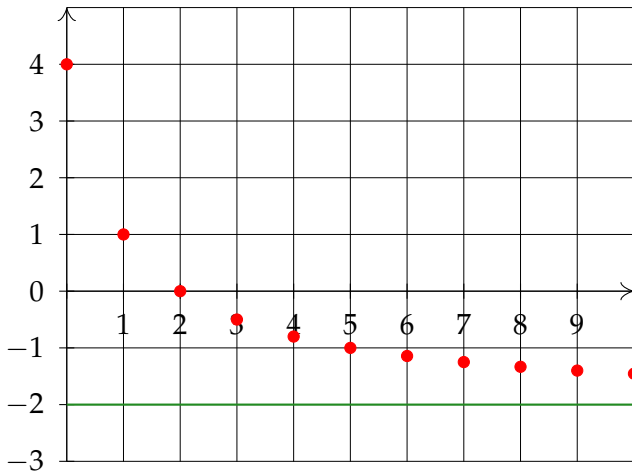


Question (1) – Correction

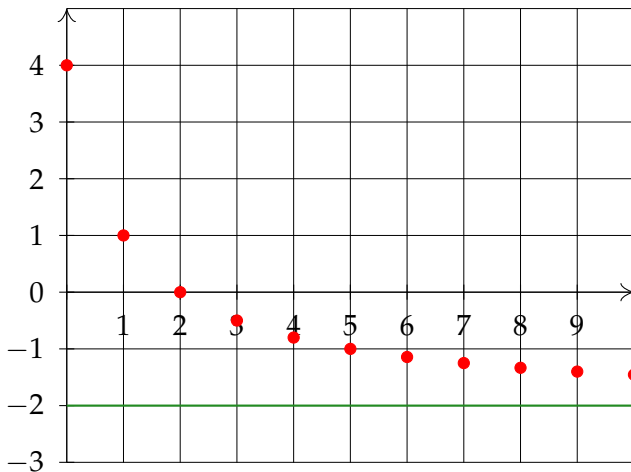


La suite semble tendre vers $+\infty$.

Question (2) – Correction



Question (2) – Correction



La suite semble tendre vers -2 .

Question (3) – Correction

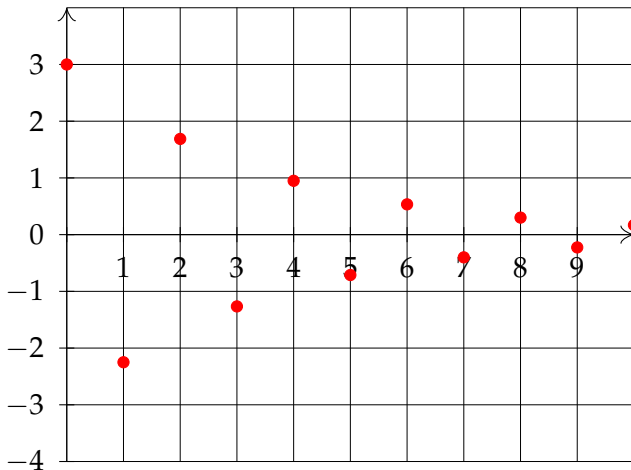
	A	B	C	D	E
1	n	u_n		n	u_n
2	0	0		10	40
3	1	-2,75		20	-720
4	2	0		30	-3780
5	3	6,75		40	-10640
6	4	16		50	-22800
7	5	26,25		60	-41760
8	6	36		70	-69020
9	7	43,75		80	-106080
10	8	48		90	-154440
11	9	47,25		100	-215600

Question (3) – Correction

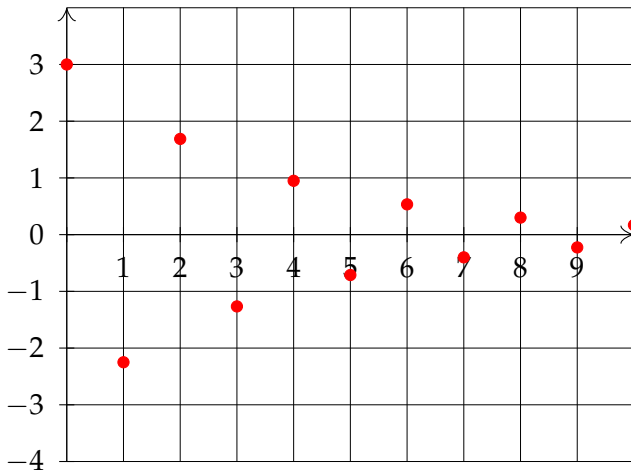
	A	B	C	D	E
1	n	u_n		n	u_n
2	0	0		10	40
3	1	-2,75		20	-720
4	2	0		30	-3780
5	3	6,75		40	-10640
6	4	16		50	-22800
7	5	26,25		60	-41760
8	6	36		70	-69020
9	7	43,75		80	-106080
10	8	48		90	-154440
11	9	47,25		100	-215600

La suite semble tendre vers $-\infty$.

Question (4) – Correction

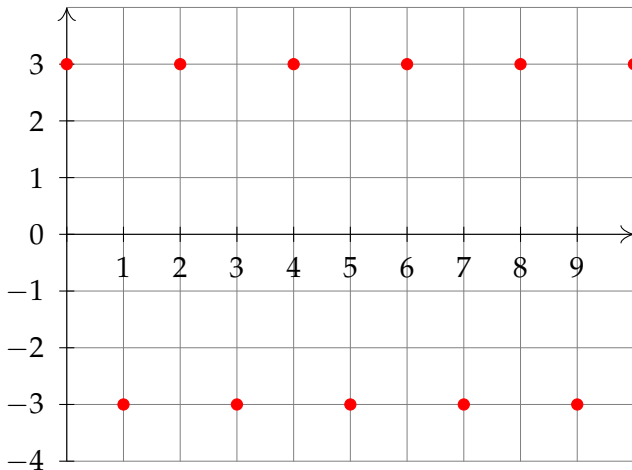


Question (4) – Correction

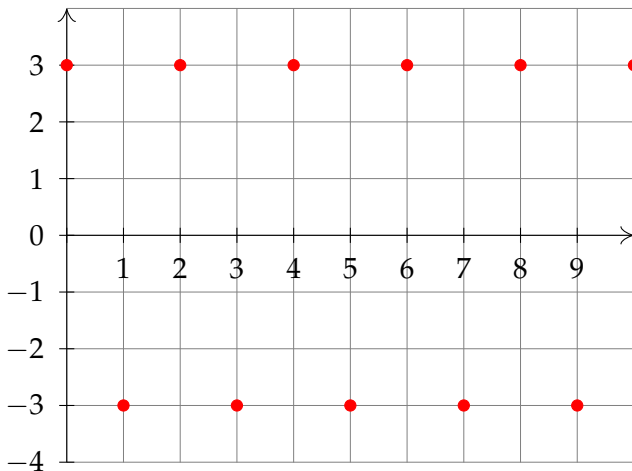


La suite semble tendre vers 0.

Question (5) – Correction



Question (5) – Correction



La suite semble ne pas avoir de limite.

Question (6) – Correction

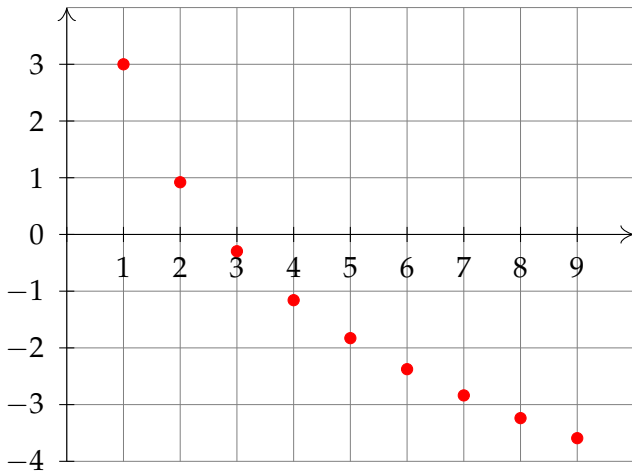
	A	B	C	D	E
1	n	u_n		n	u_n
2	0	-500		10	-495
3	1	-499,5		20	-490
4	2	-499		30	-485
5	3	-498,5		40	-480
6	4	-498		50	-475
7	5	-497,5		60	-470
8	6	-497		70	-465
9	7	-496,5		80	-460
10	8	-496		90	-455
11	9	-495,5		100	-450

Question (6) – Correction

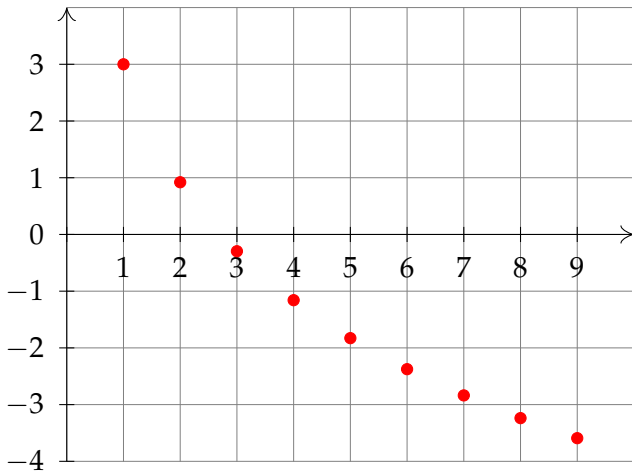
	A	B	C	D	E
1	n	u_n		n	u_n
2	0	-500		10	-495
3	1	-499,5		20	-490
4	2	-499		30	-485
5	3	-498,5		40	-480
6	4	-498		50	-475
7	5	-497,5		60	-470
8	6	-497		70	-465
9	7	-496,5		80	-460
10	8	-496		90	-455
11	9	-495,5		100	-450

La suite semble tendre vers $+\infty$.

Question (7) – Correction



Question (7) – Correction



La suite semble tendre vers $-\infty$.

Question (8) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	3		10	3
3	1	-3		11	-3
4	2	3		12	3
5	3	-3		13	-3
6	4	3		14	3
7	5	-3		15	-3
8	6	3		16	3
9	7	-3		17	-3
10	8	3		18	3
11	9	-3		19	-3

Question (8) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	3		10	3
3	1	-3		11	-3
4	2	3		12	3
5	3	-3		13	-3
6	4	3		14	3
7	5	-3		15	-3
8	6	3		16	3
9	7	-3		17	-3
10	8	3		18	3
11	9	-3		19	-3

La suite semble ne pas avoir de limite.

Question (9) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	1	3		11	2,090909091
3	2	2,5		12	2,083333333
4	3	2,333333333		13	2,076923077
5	4	2,25		14	2,071428571
6	5	2,2		15	2,066666667
7	6	2,166666667		16	2,0625
8	7	2,142857143		17	2,058823529
9	8	2,125		18	2,055555556
10	9	2,111111111		19	2,052631579
11	10	2,1		20	2,05

Question (9) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	1	3		11	2,090909091
3	2	2,5		12	2,083333333
4	3	2,333333333		13	2,076923077
5	4	2,25		14	2,071428571
6	5	2,2		15	2,066666667
7	6	2,166666667		16	2,0625
8	7	2,142857143		17	2,058823529
9	8	2,125		18	2,055555556
10	9	2,111111111		19	2,052631579
11	10	2,1		20	2,05

La suite semble tendre vers 2.

Question (10) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	1		10	0,107374182
3	1	-0,8		20	0,011529215
4	2	0,64		30	0,00123794
5	3	-0,512		40	0,000132923
6	4	0,4096		50	1,42725E-05
7	5	-0,32768		60	1,5325E-06
8	6	0,262144		70	1,6455E-07
9	7	-0,2097152		80	1,76685E-08
10	8	0,16777216		90	1,89714E-09
11	9	-0,13421773		100	2,03704E-10

Question (10) – Correction

	A	B	C	D	E
1	n	u_n		n	u_n
2	0	1		10	0,107374182
3	1	-0,8		20	0,011529215
4	2	0,64		30	0,00123794
5	3	-0,512		40	0,000132923
6	4	0,4096		50	1,42725E-05
7	5	-0,32768		60	1,5325E-06
8	6	0,262144		70	1,6455E-07
9	7	-0,2097152		80	1,76685E-08
10	8	0,16777216		90	1,89714E-09
11	9	-0,13421773		100	2,03704E-10

La suite semble tendre vers 0.

FIN