

Mathematische Statistik

Binomialverteilung

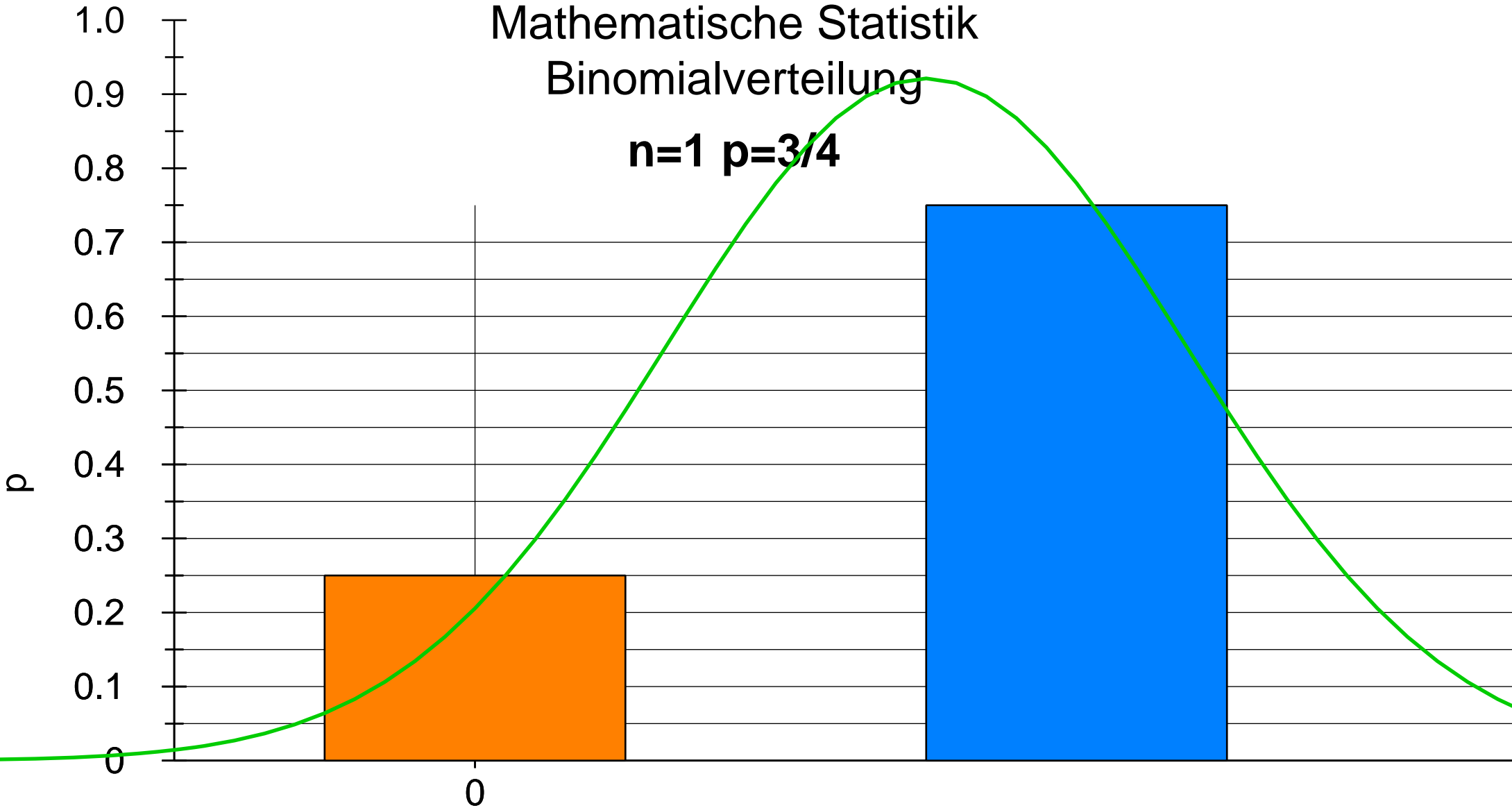
G. Wegener

Hannover, im Oktober 2017,
alle Rechte vorbehalten.

Mathematische Statistik

Binomialverteilung

$n=1$ $p=3/4$



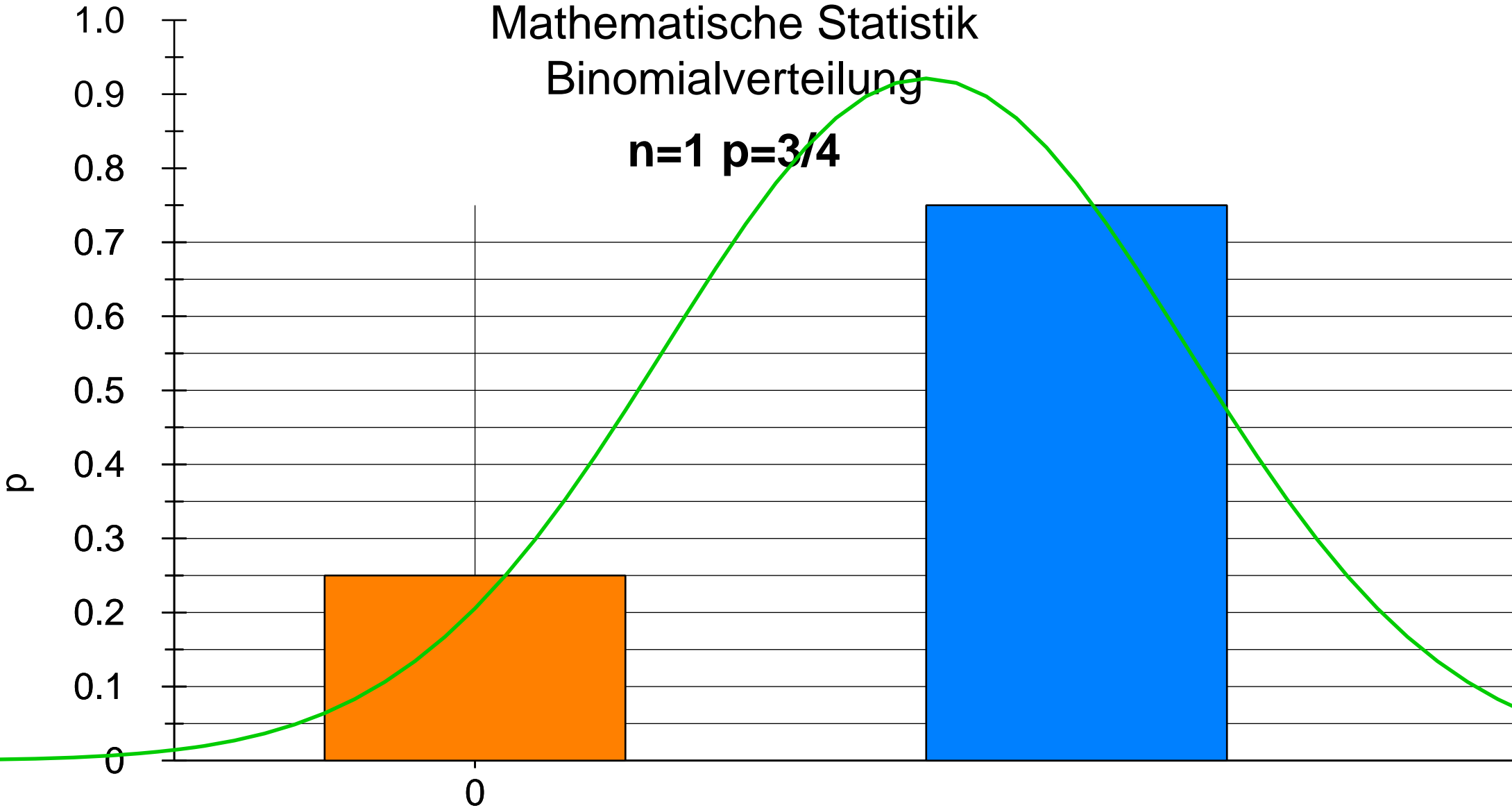
Treffer

$N(0.8, 0.43)$

Mathematische Statistik

Binomialverteilung

$n=1$ $p=3/4$



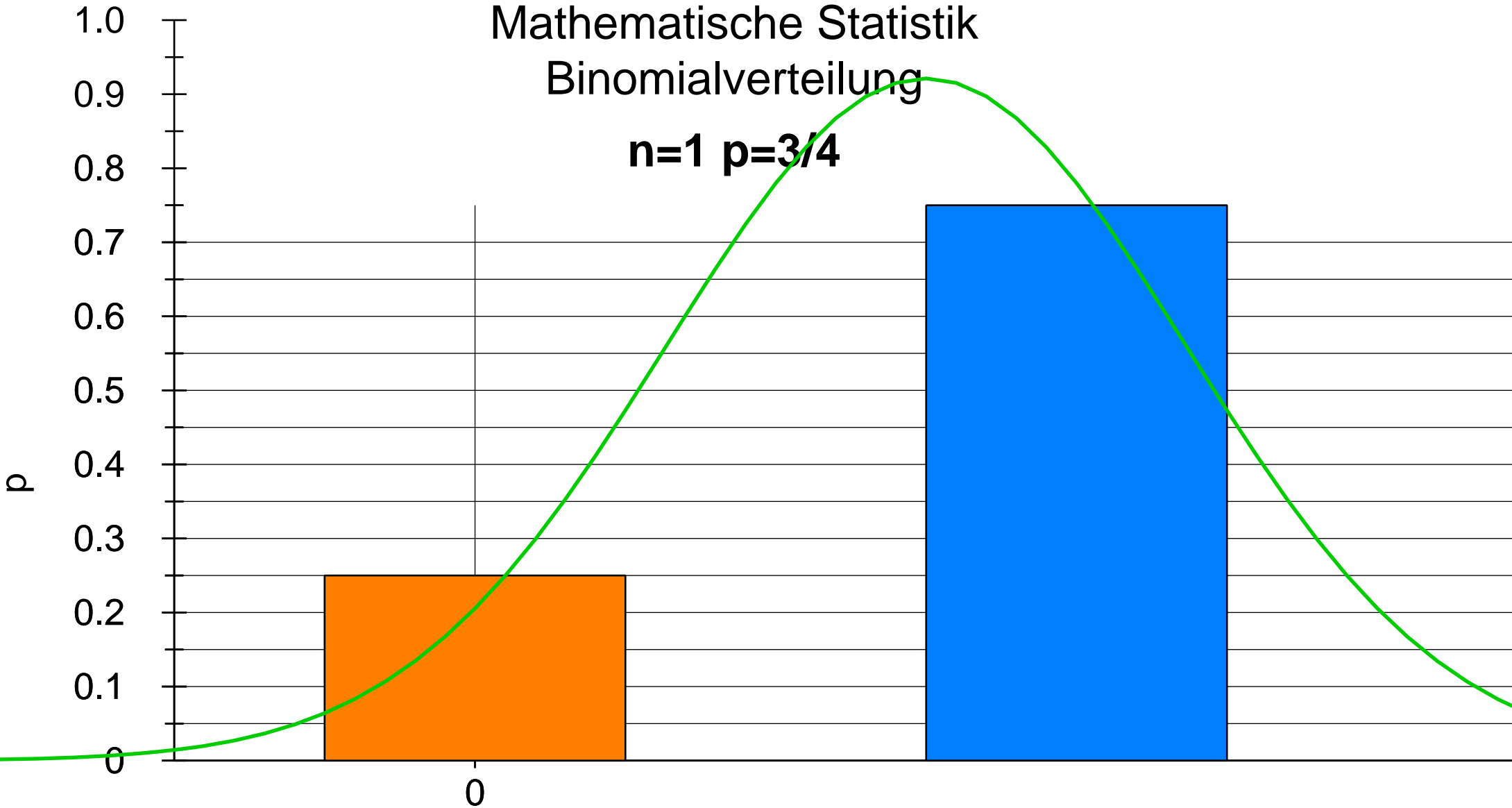
Treffer

$N(0.8, 0.43)$

Mathematische Statistik

Binomialverteilung

$n=1$ $p=3/4$



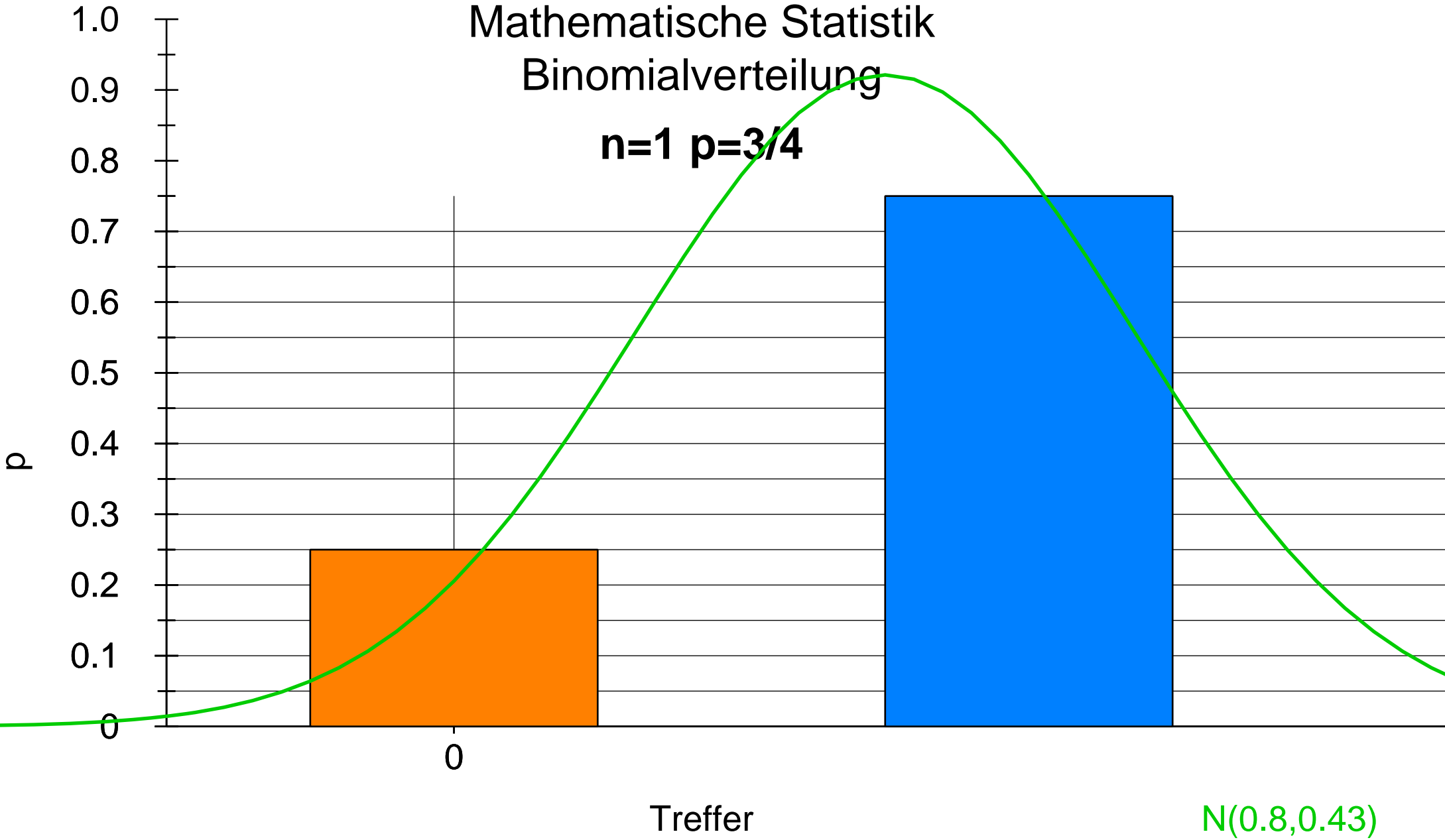
Treffer

$N(0.8, 0.43)$

Mathematische Statistik

Binomialverteilung

$n=1$ $p=3/4$

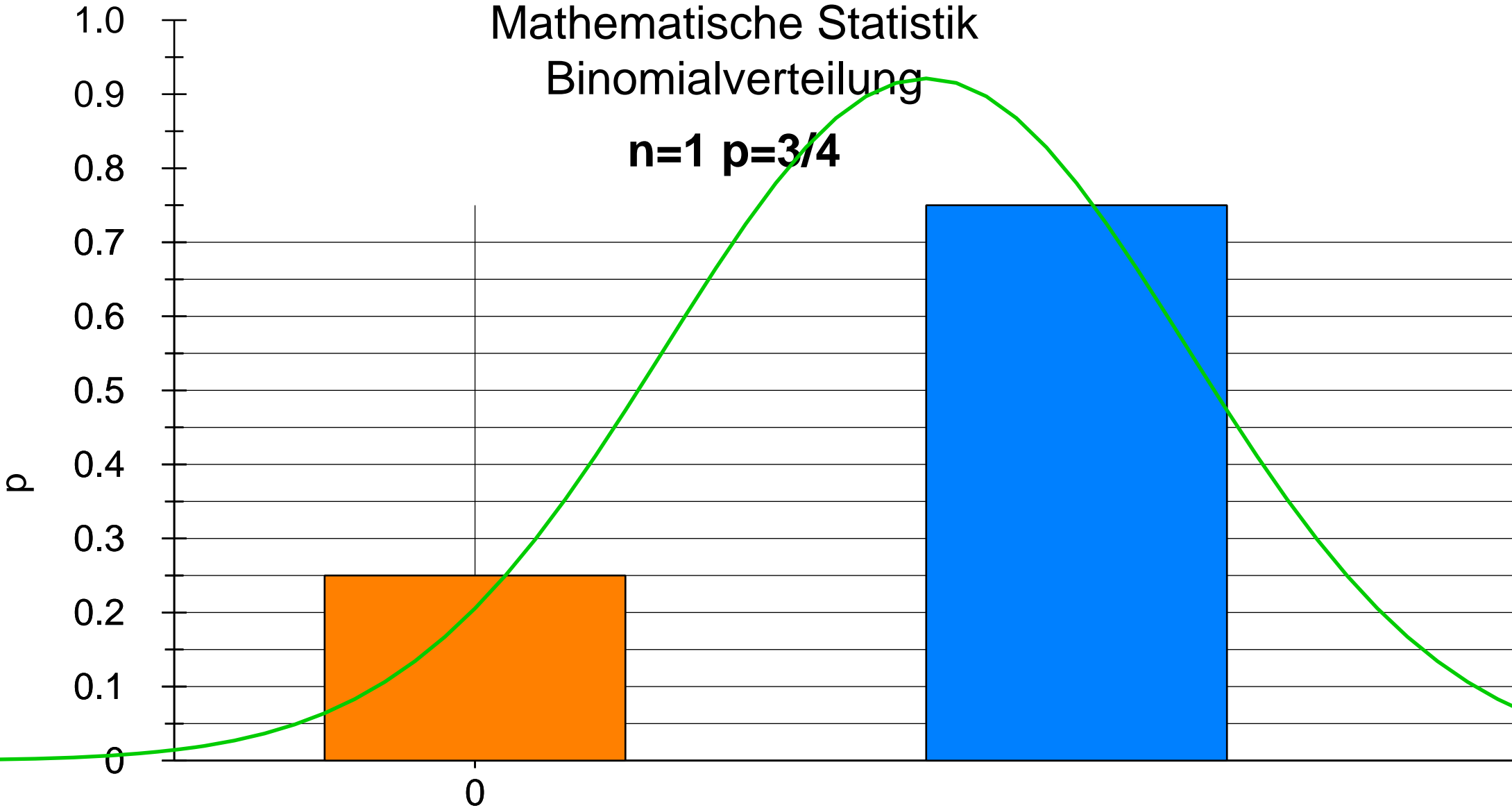


$N(0.8, 0.43)$

Mathematische Statistik

Binomialverteilung

$n=1$ $p=3/4$



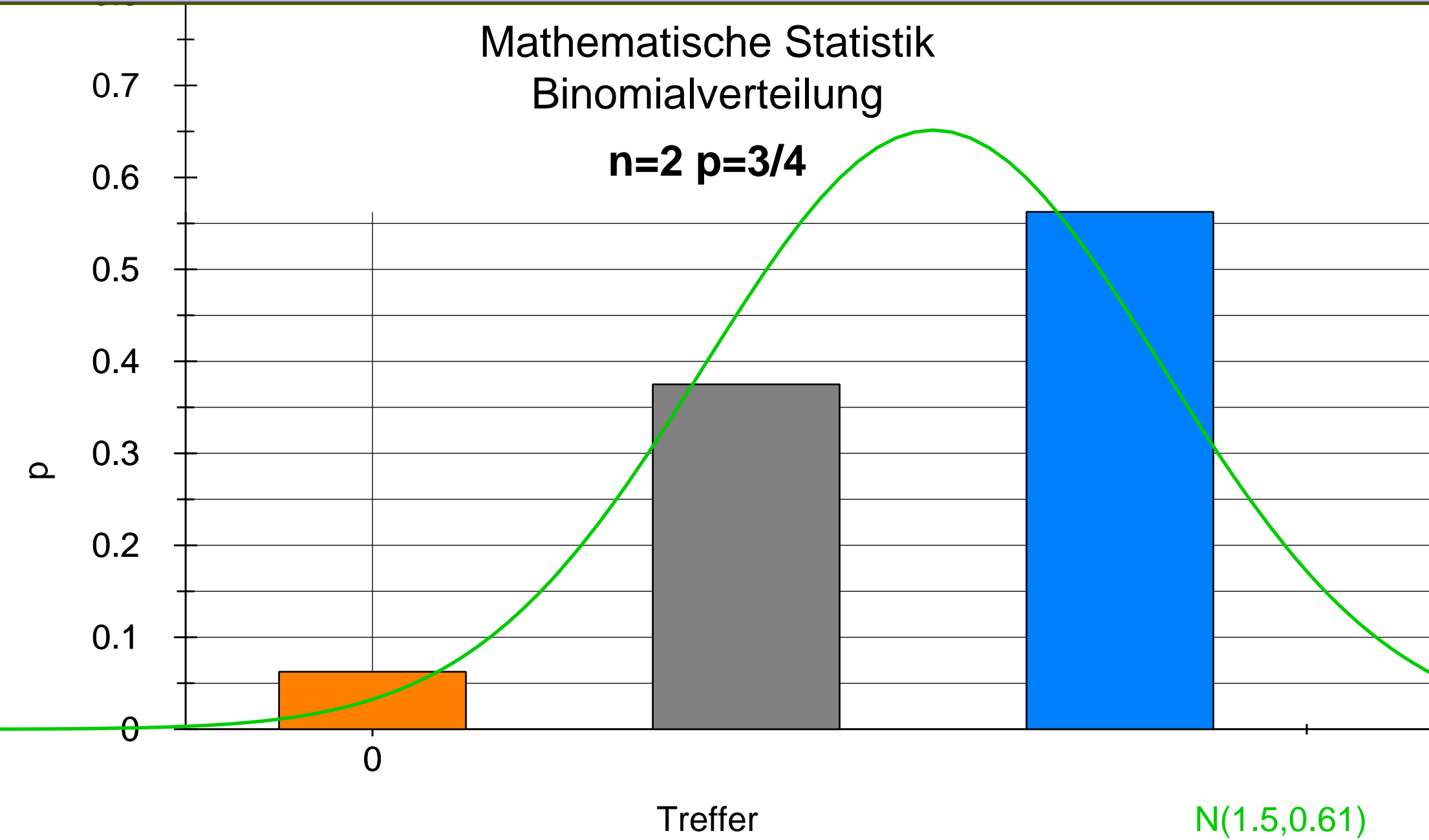
Treffer

$N(0.8, 0.43)$

Mathematische Statistik

Binomialverteilung

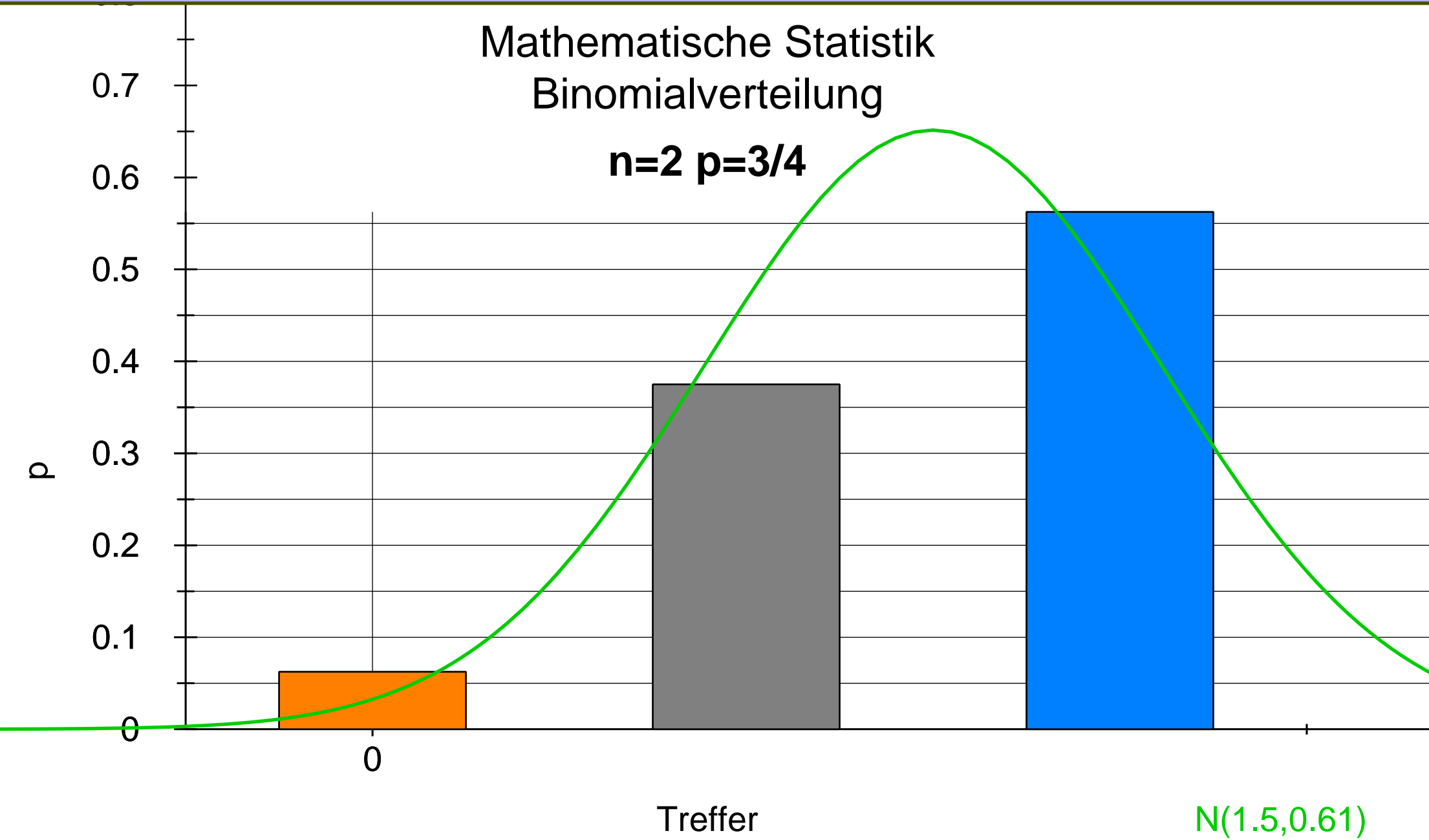
$n=2$ $p=3/4$



Mathematische Statistik

Binomialverteilung

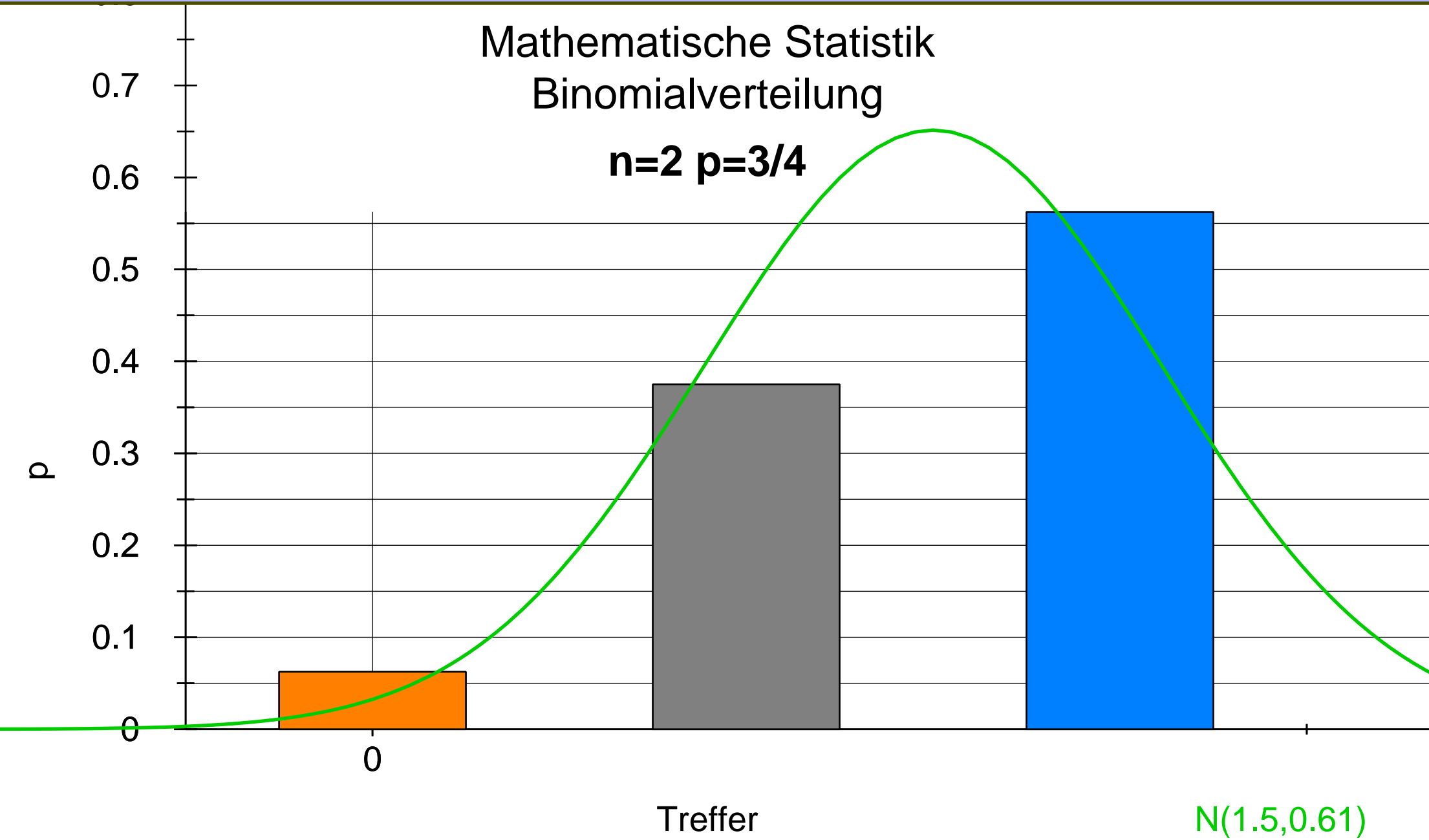
$n=2$ $p=3/4$



Mathematische Statistik

Binomialverteilung

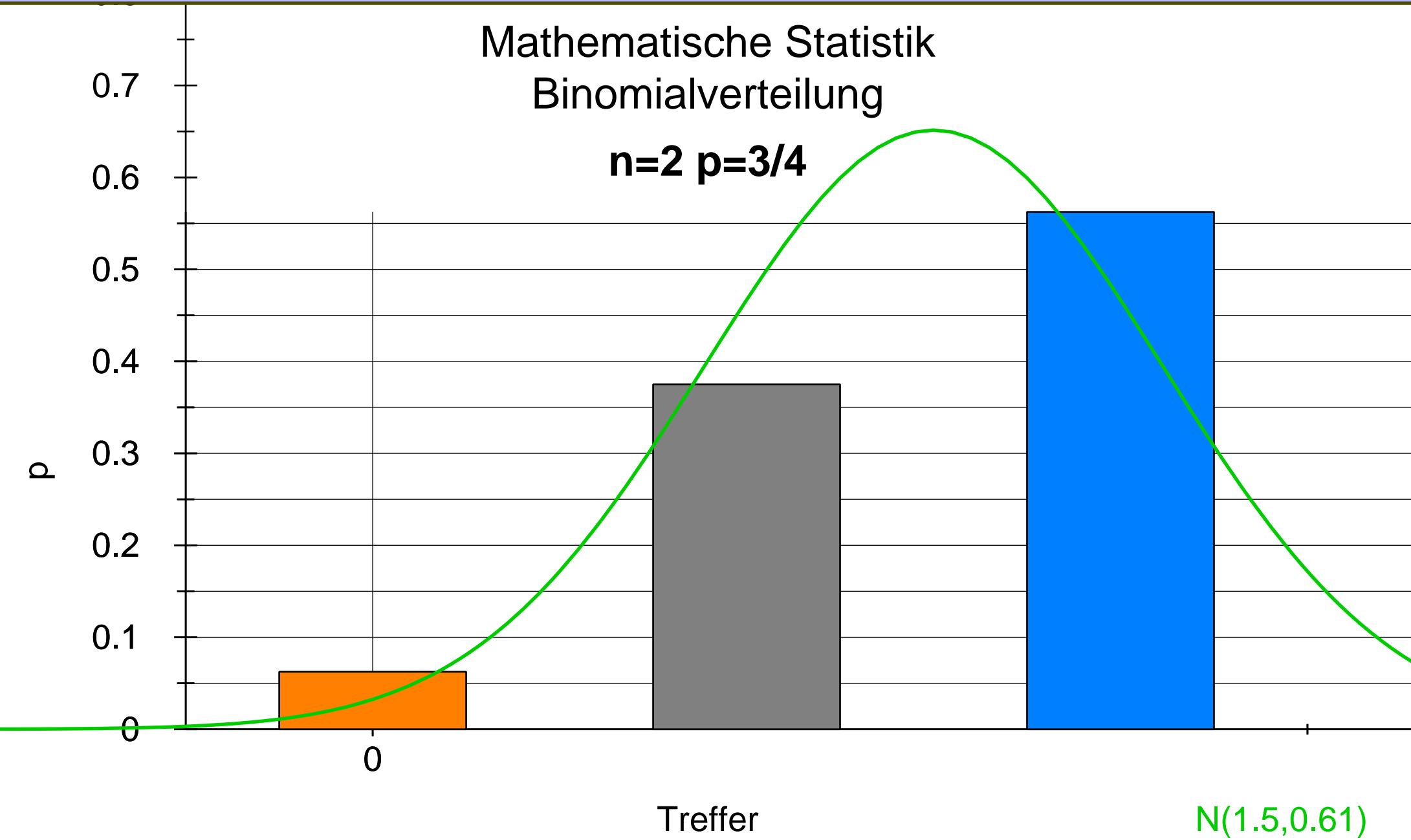
$n=2$ $p=3/4$



Mathematische Statistik

Binomialverteilung

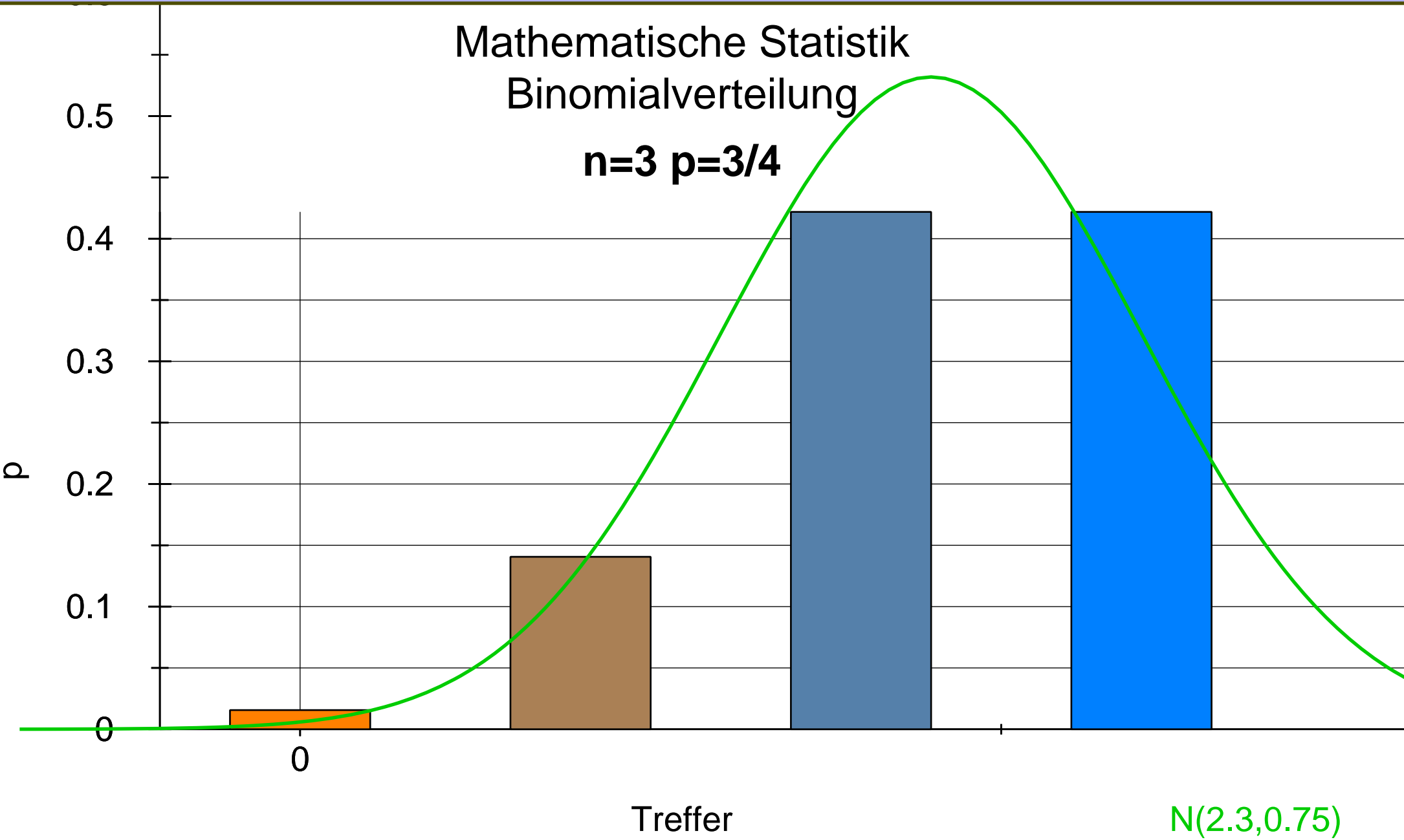
$n=2$ $p=3/4$



Mathematische Statistik

Binomialverteilung

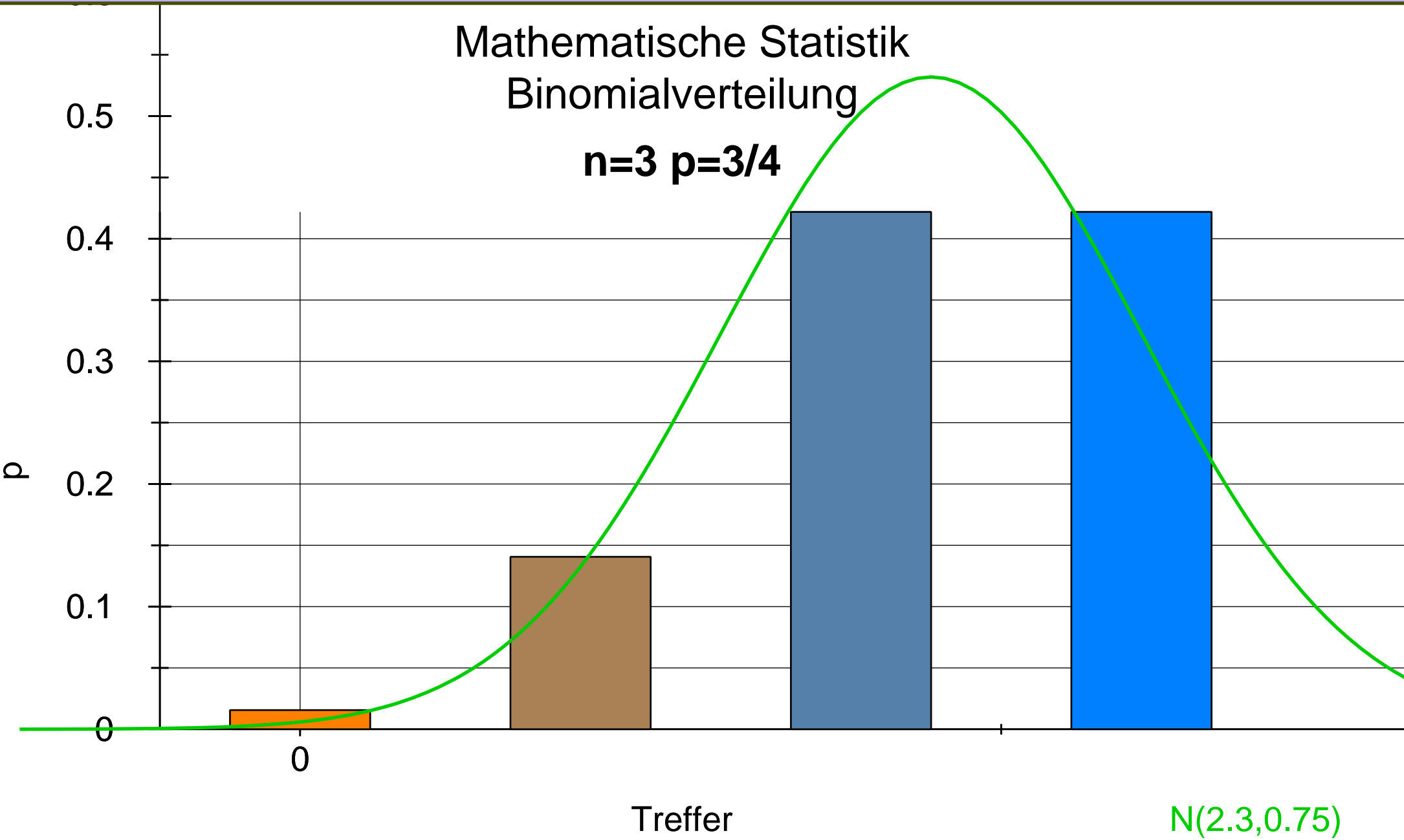
$n=3$ $p=3/4$



Mathematische Statistik

Binomialverteilung

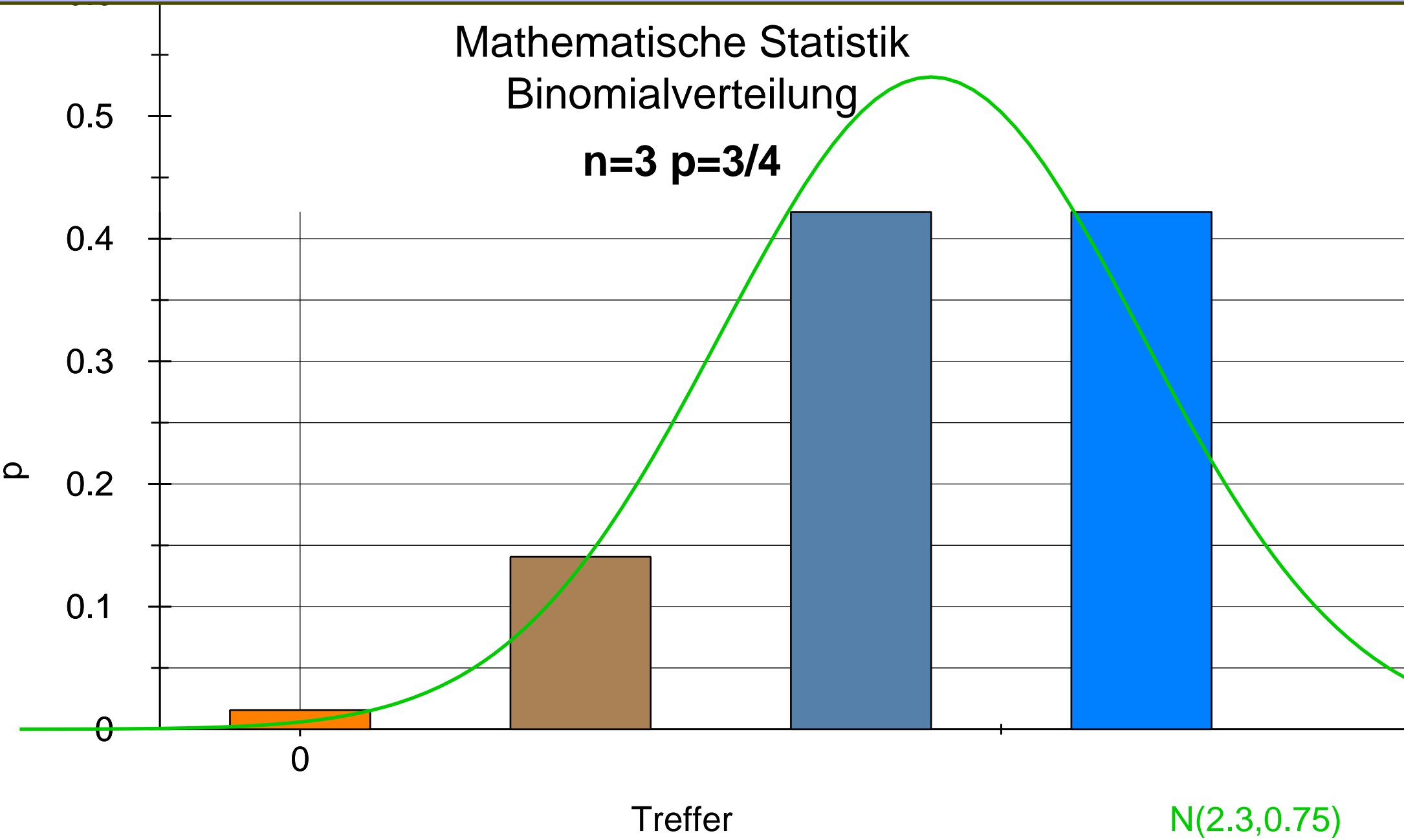
$n=3$ $p=3/4$



Mathematische Statistik

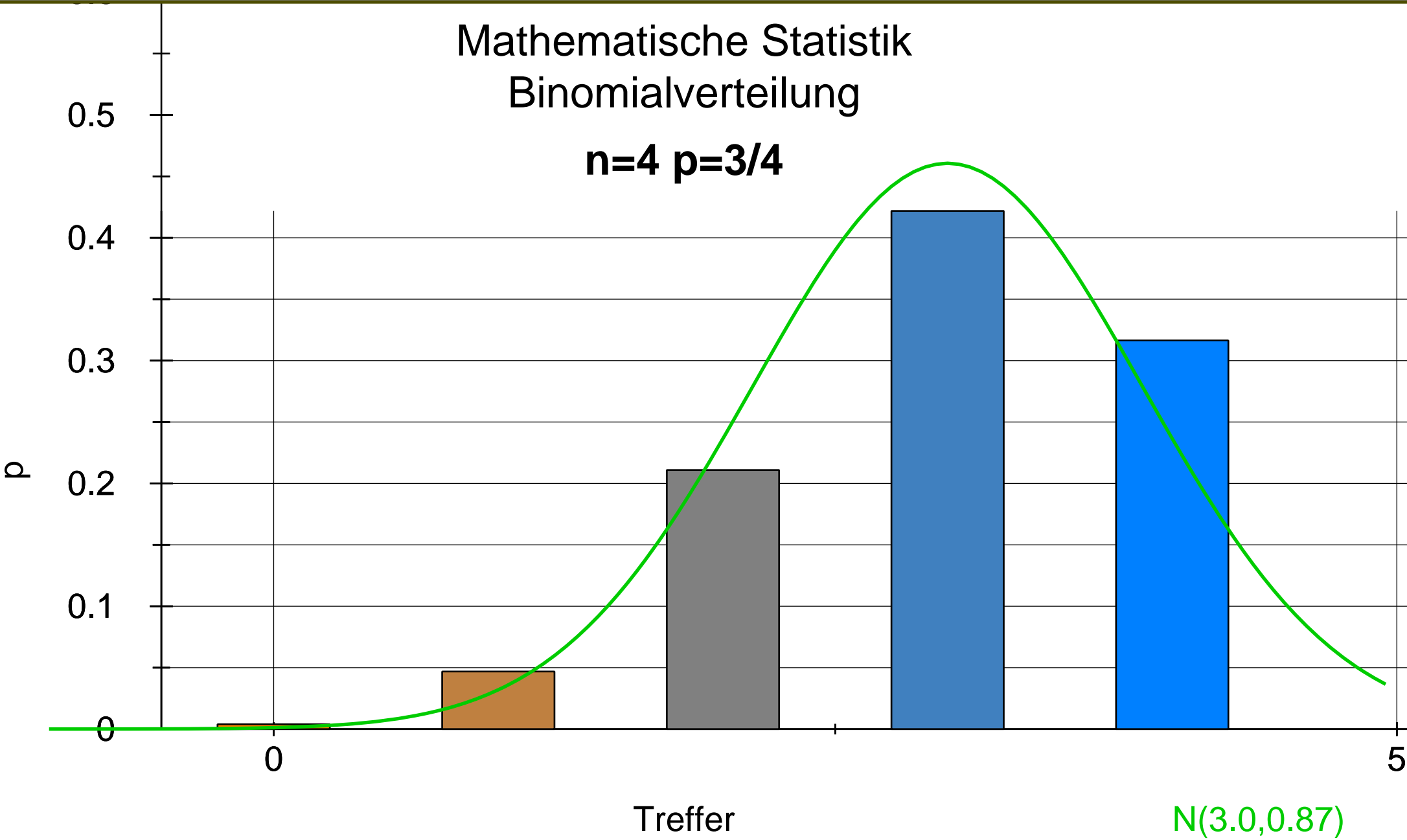
Binomialverteilung

$n=3$ $p=3/4$



Mathematische Statistik
Binomialverteilung

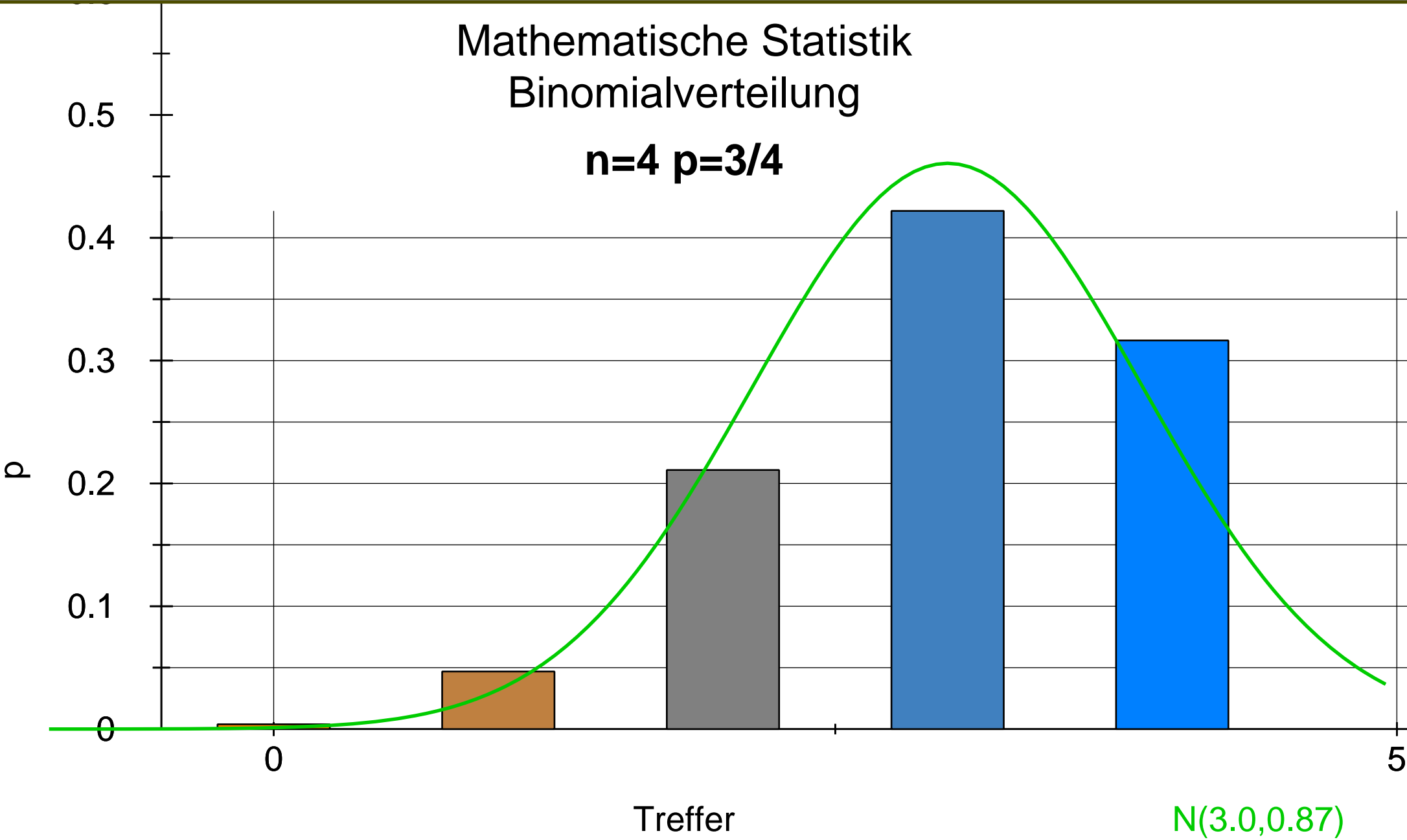
n=4 p=3/4



Mathematische Statistik

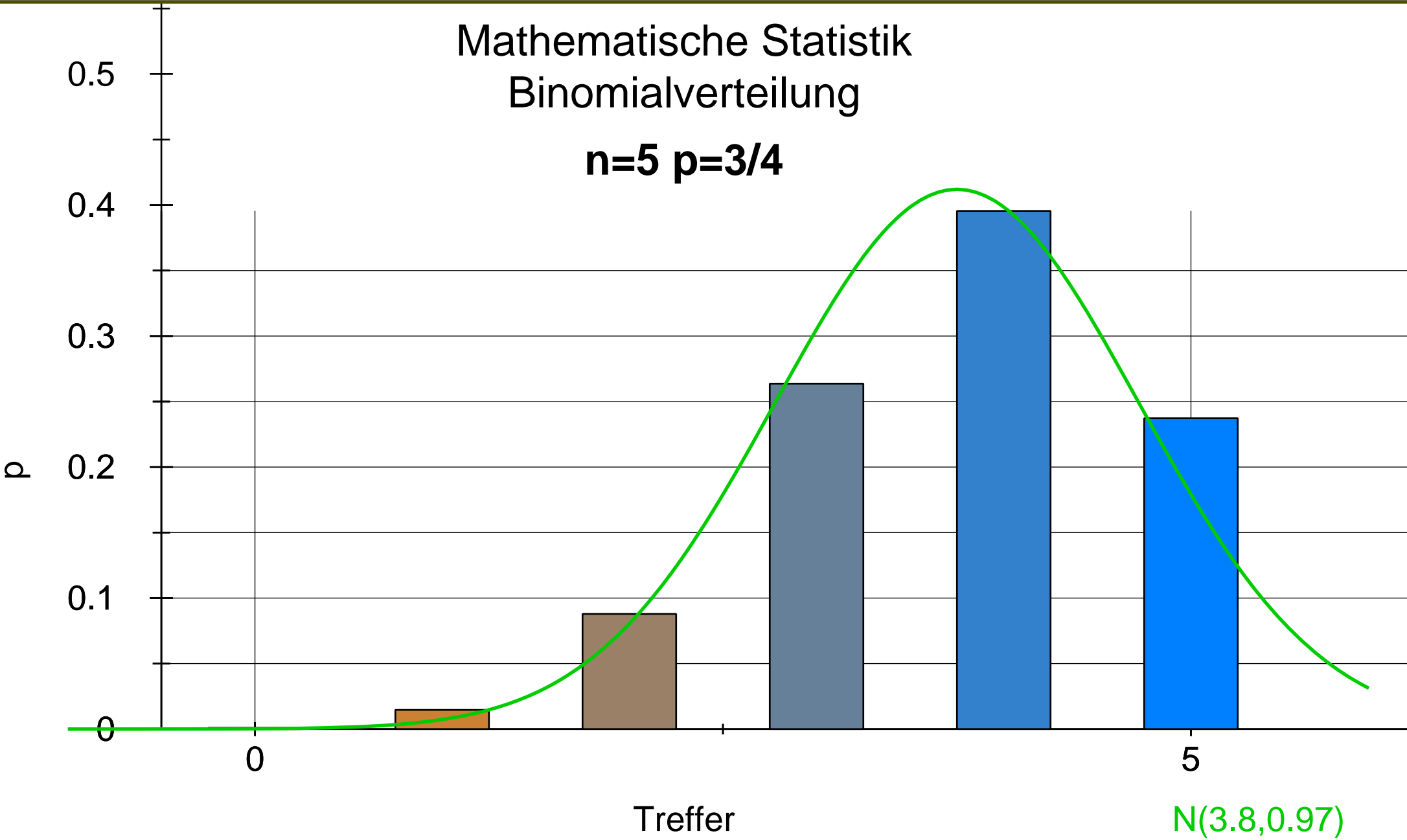
Binomialverteilung

$n=4$ $p=3/4$



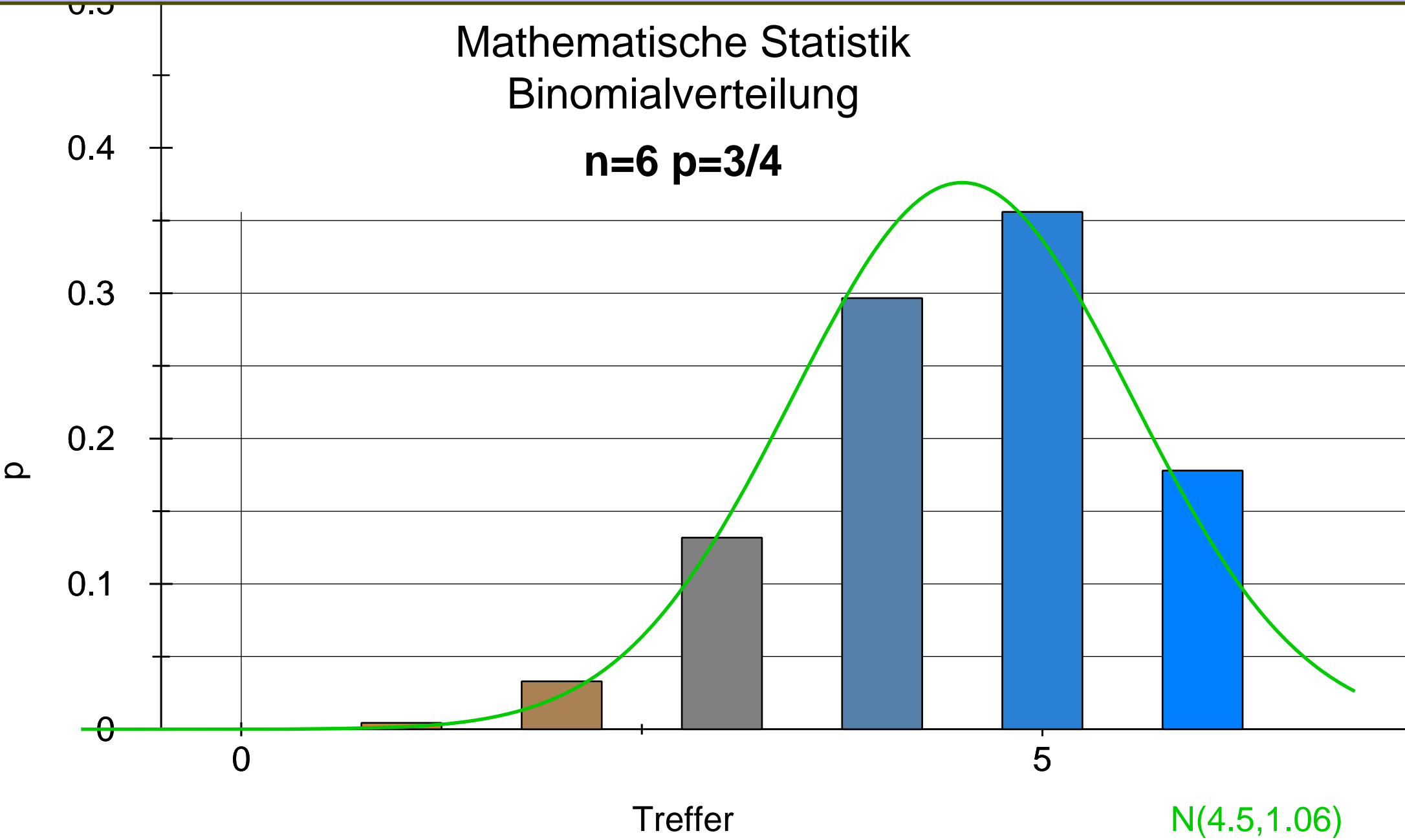
Mathematische Statistik
Binomialverteilung

n=5 p=3/4



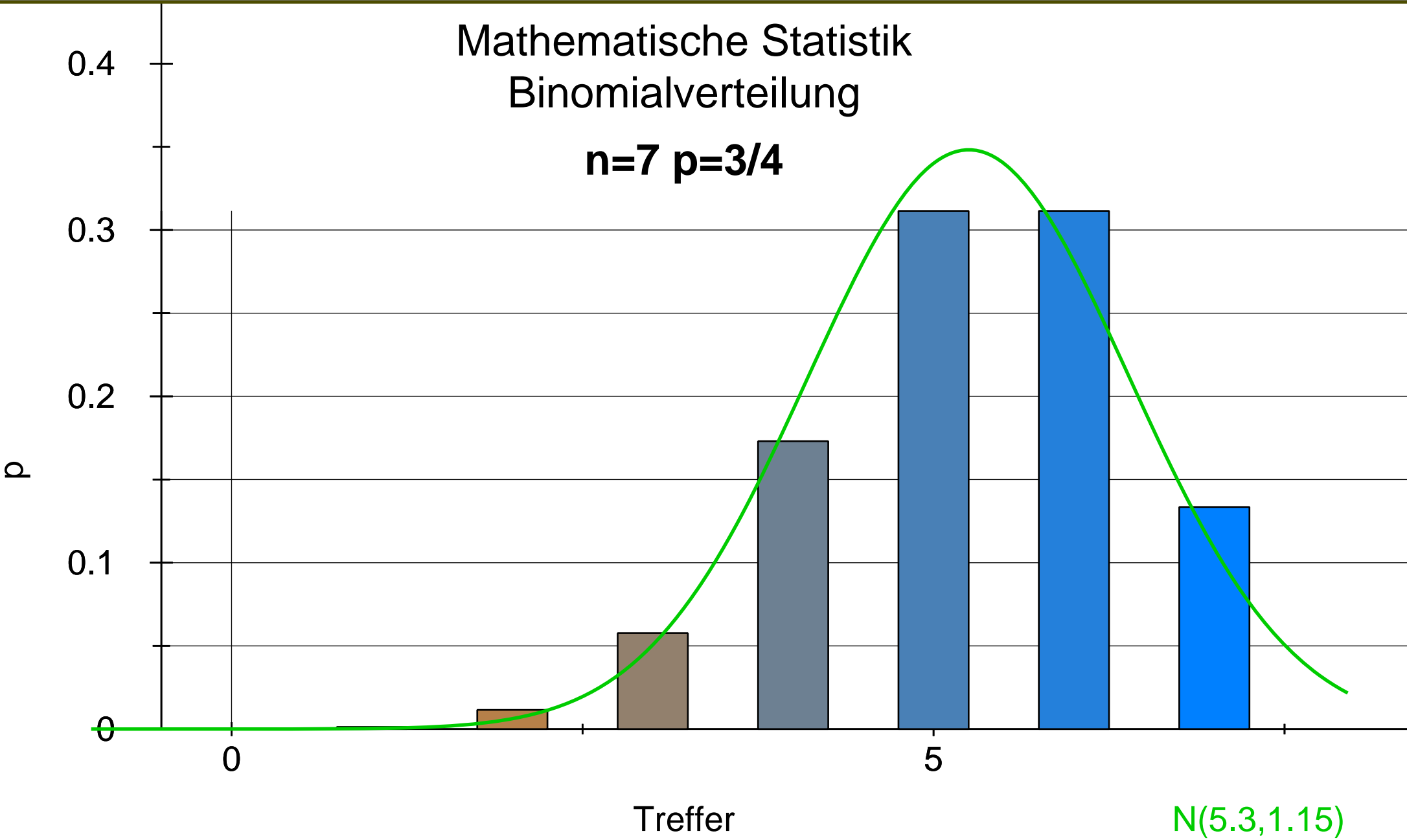
Mathematische Statistik
Binomialverteilung

n=6 p=3/4



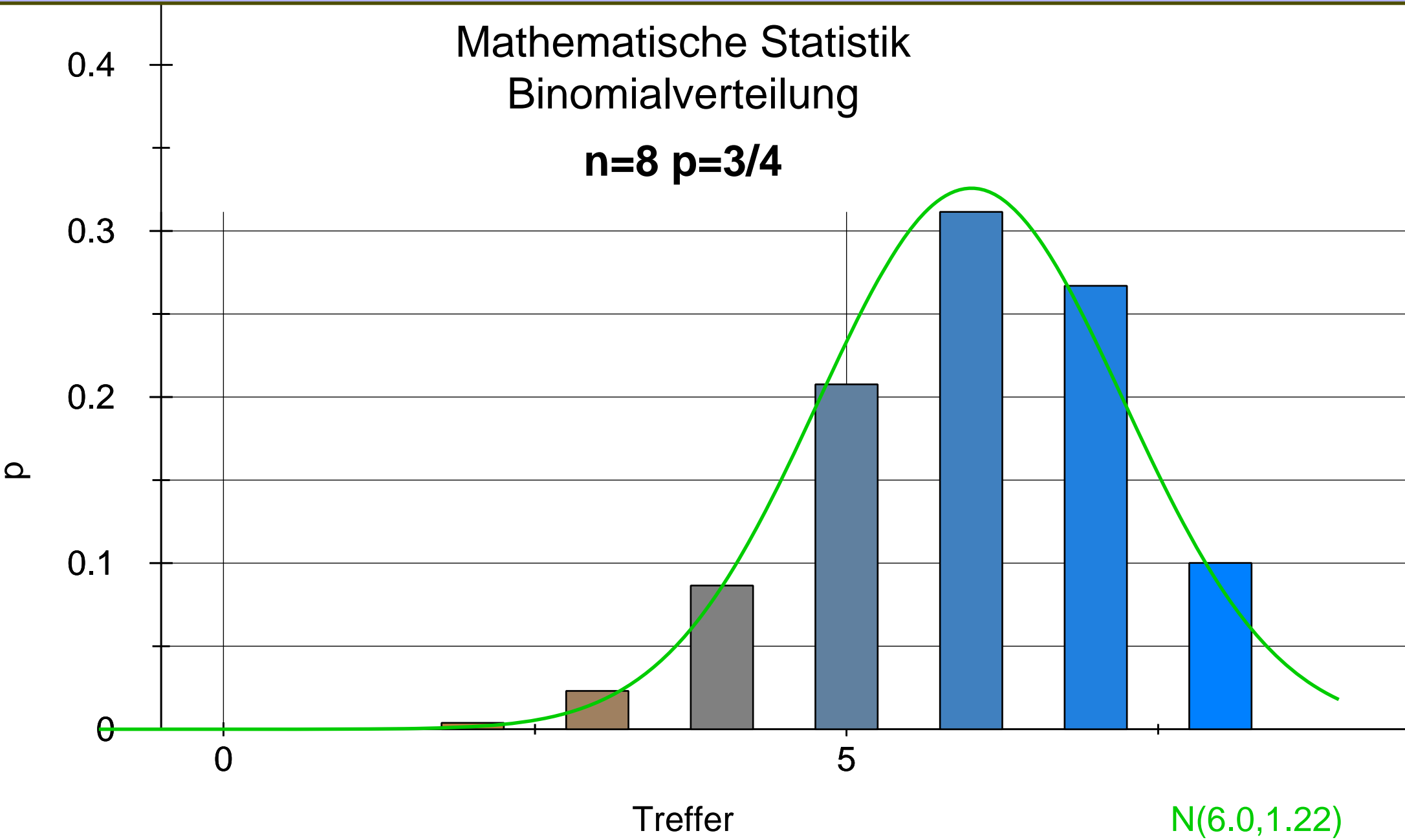
Mathematische Statistik
Binomialverteilung

$n=7$ $p=3/4$



Mathematische Statistik Binomialverteilung

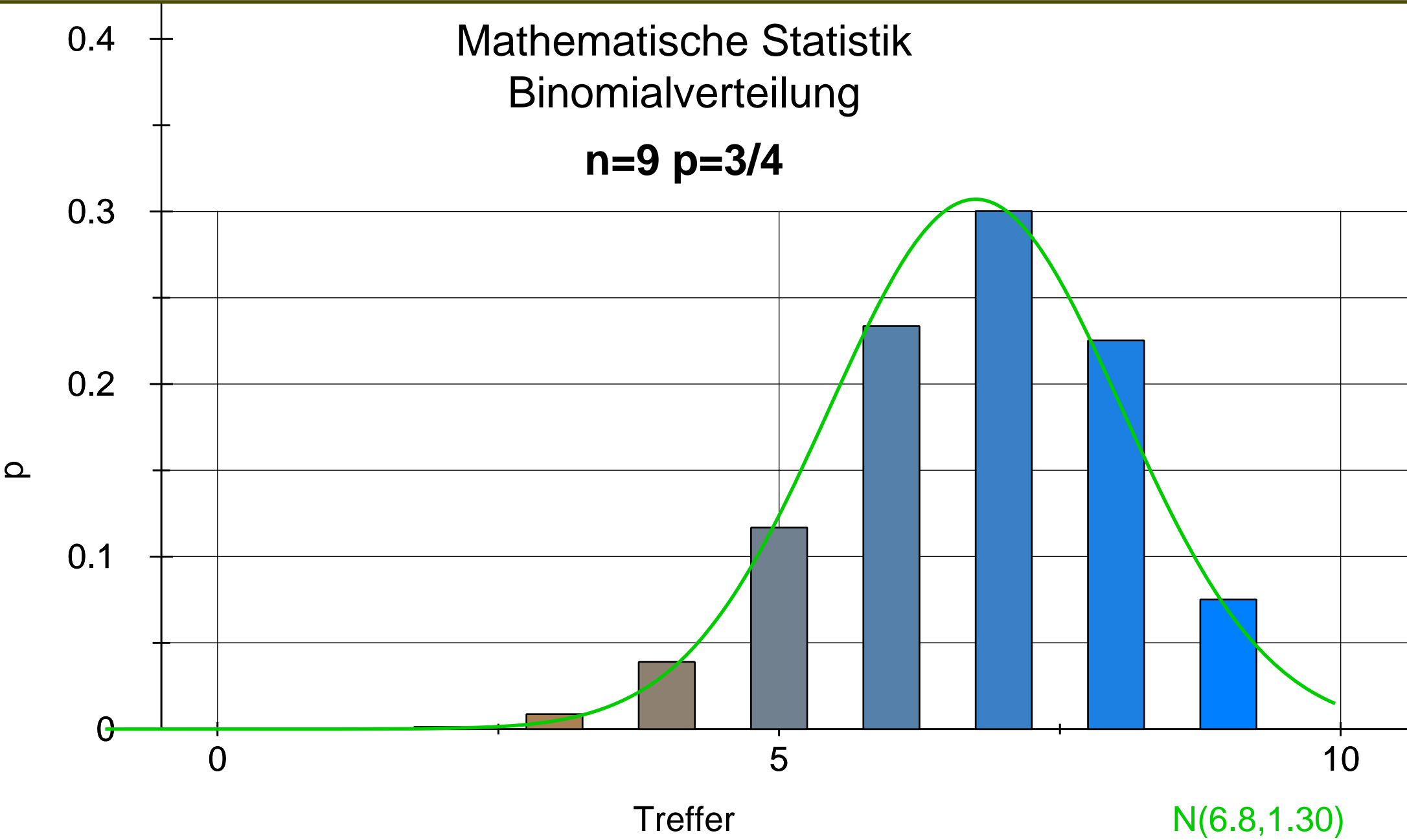
n=8 p=3/4



$N(6.0, 1.22)$

Mathematische Statistik
Binomialverteilung

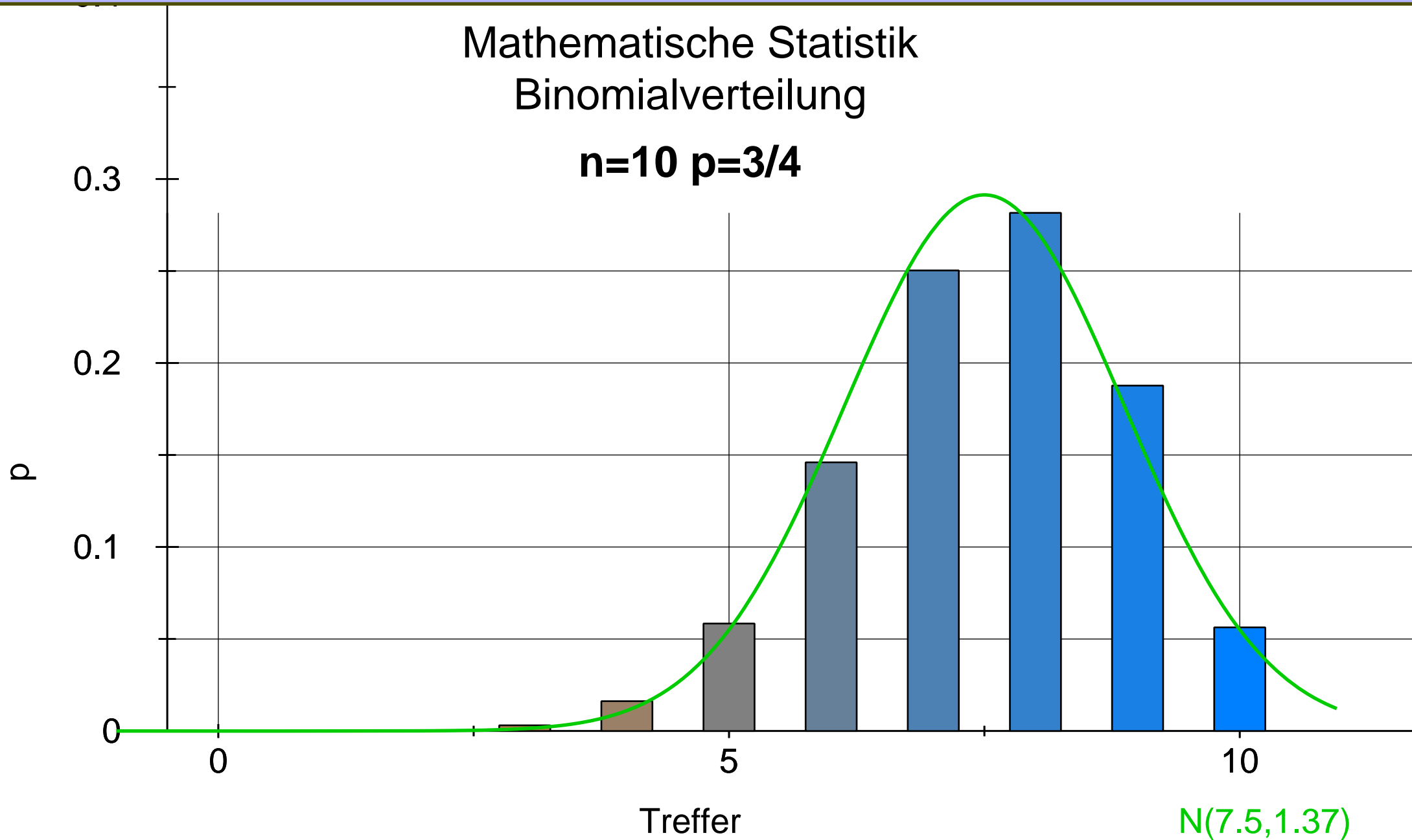
n=9 p=3/4



Mathematische Statistik

Binomialverteilung

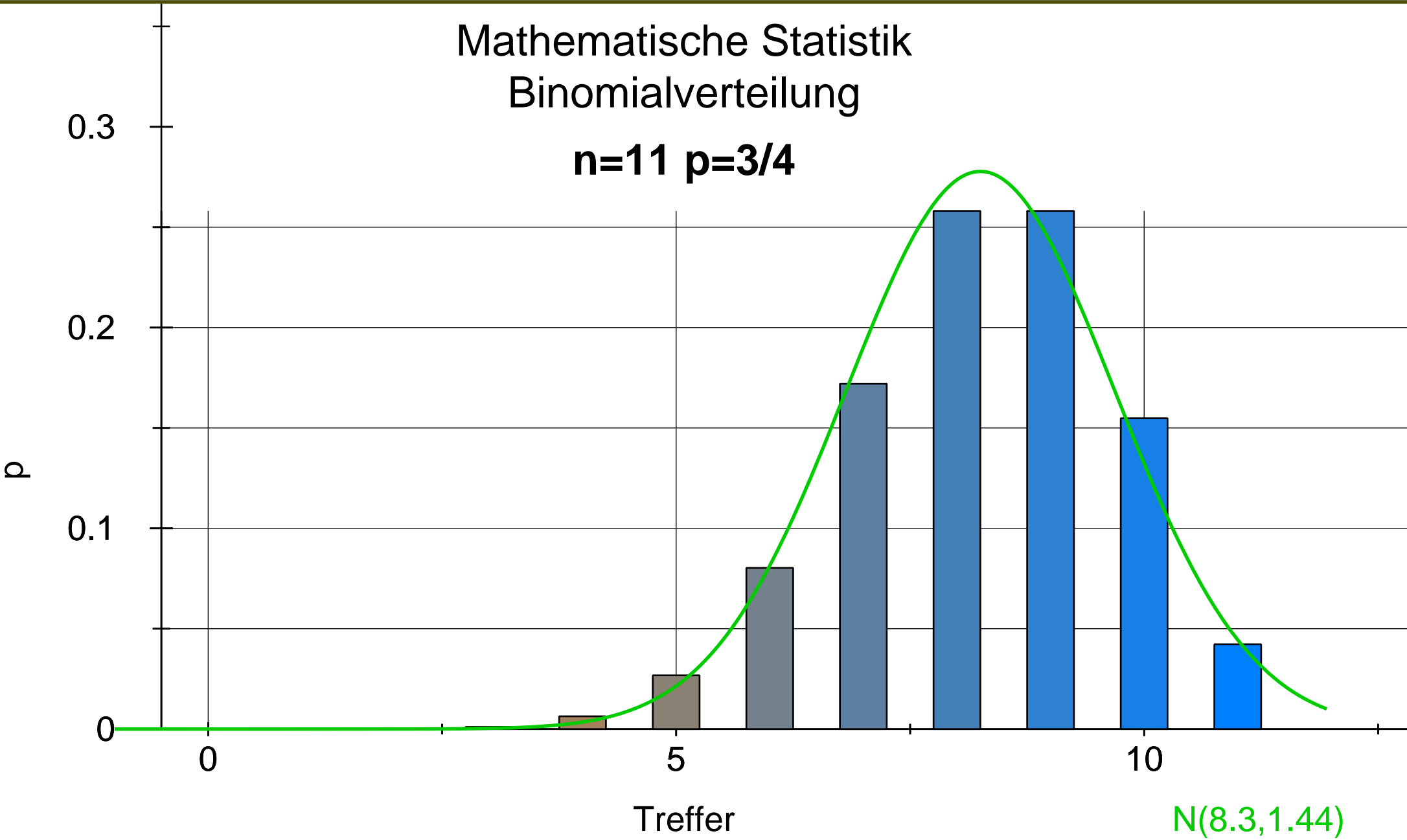
$n=10$ $p=3/4$



Mathematische Statistik

Binomialverteilung

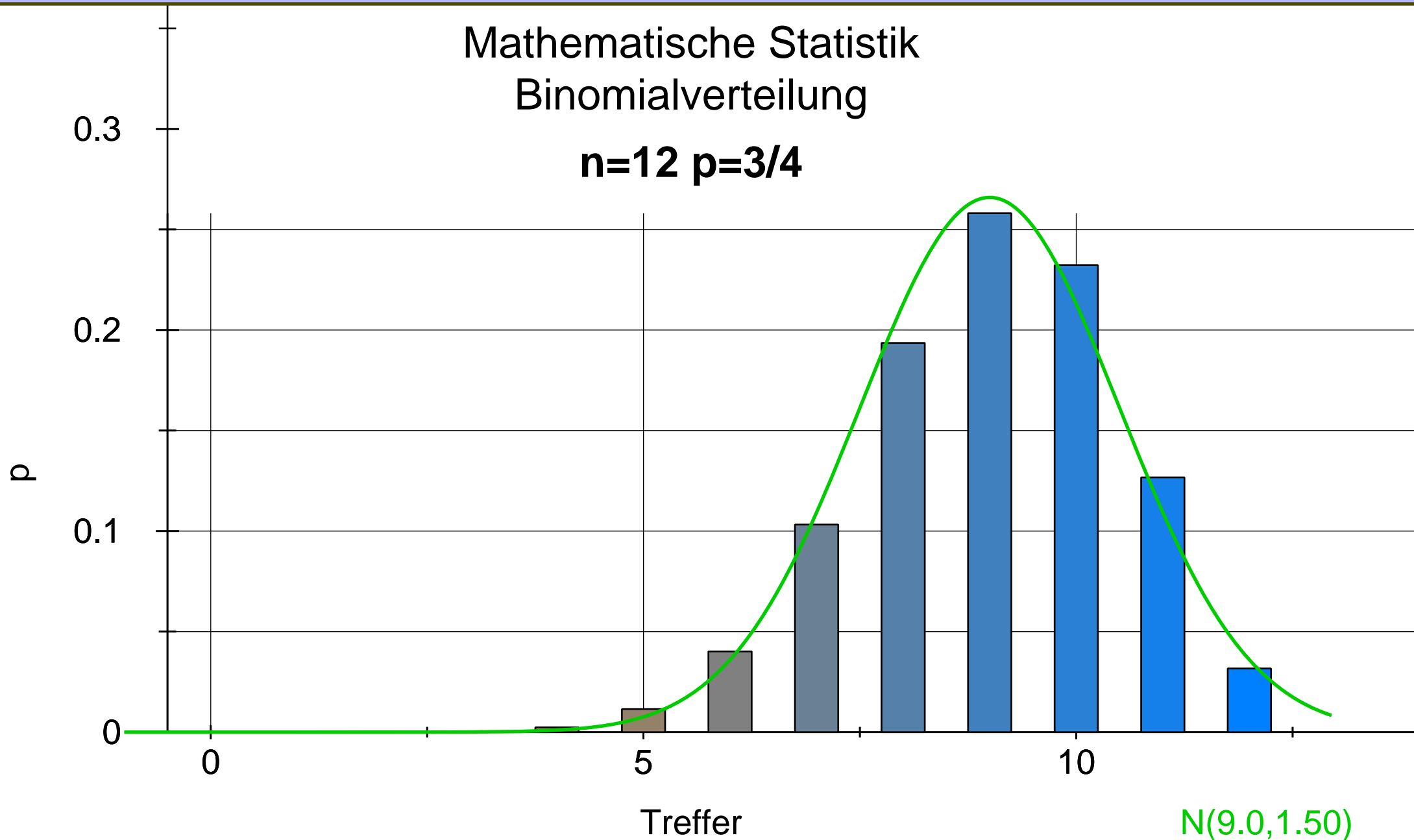
n=11 p=3/4



Mathematische Statistik

Binomialverteilung

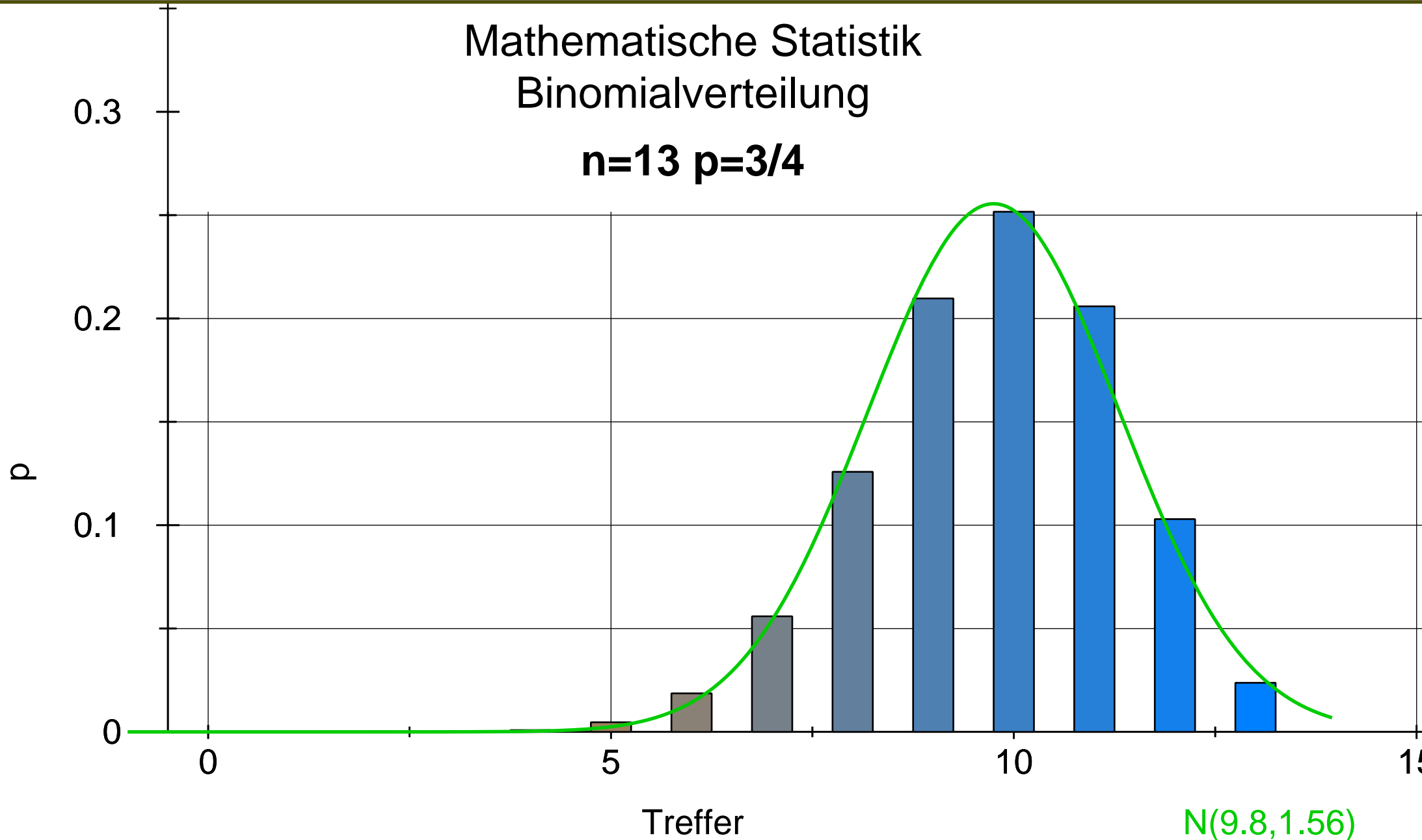
$n=12$ $p=3/4$



Mathematische Statistik

Binomialverteilung

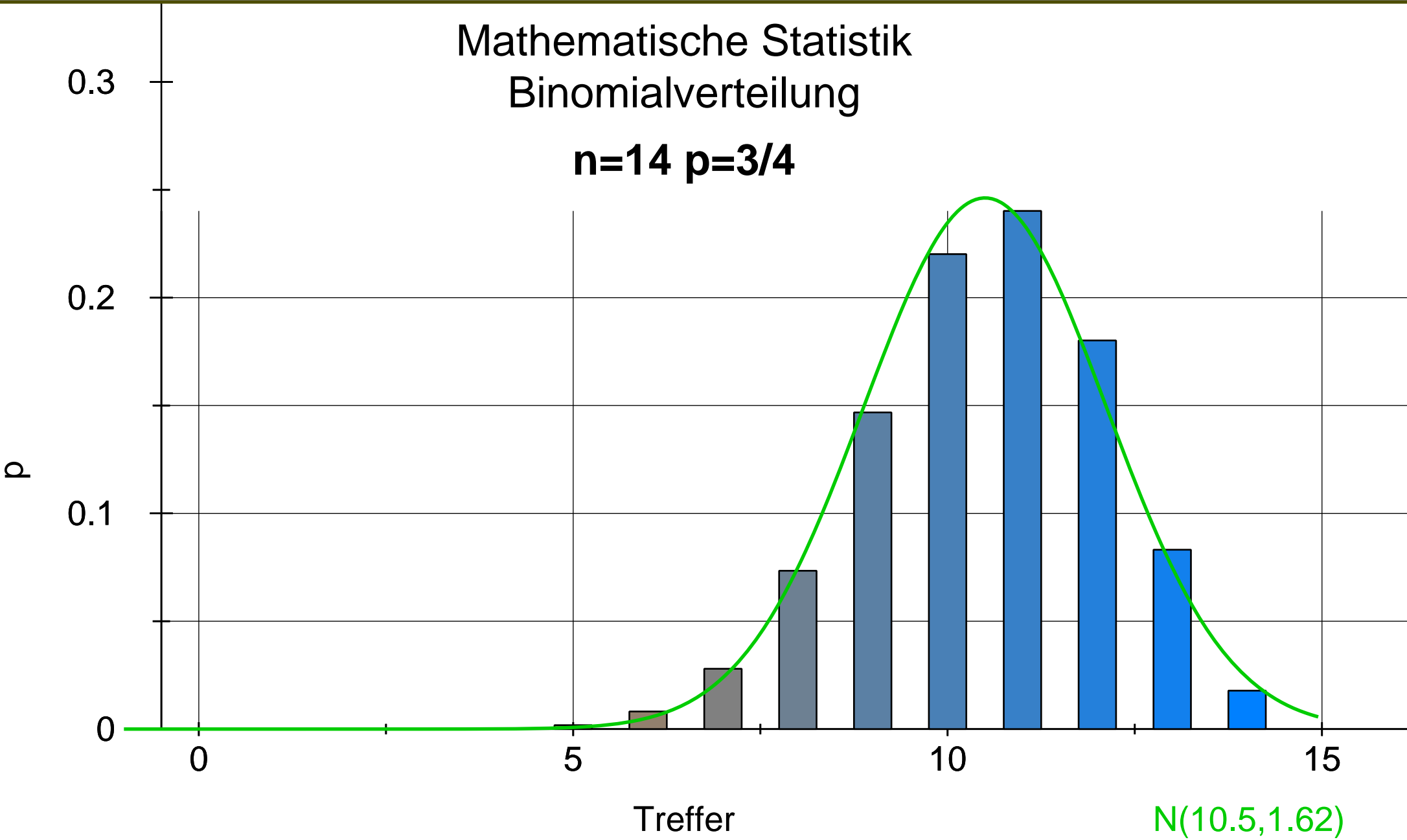
$n=13$ $p=3/4$



Mathematische Statistik

Binomialverteilung

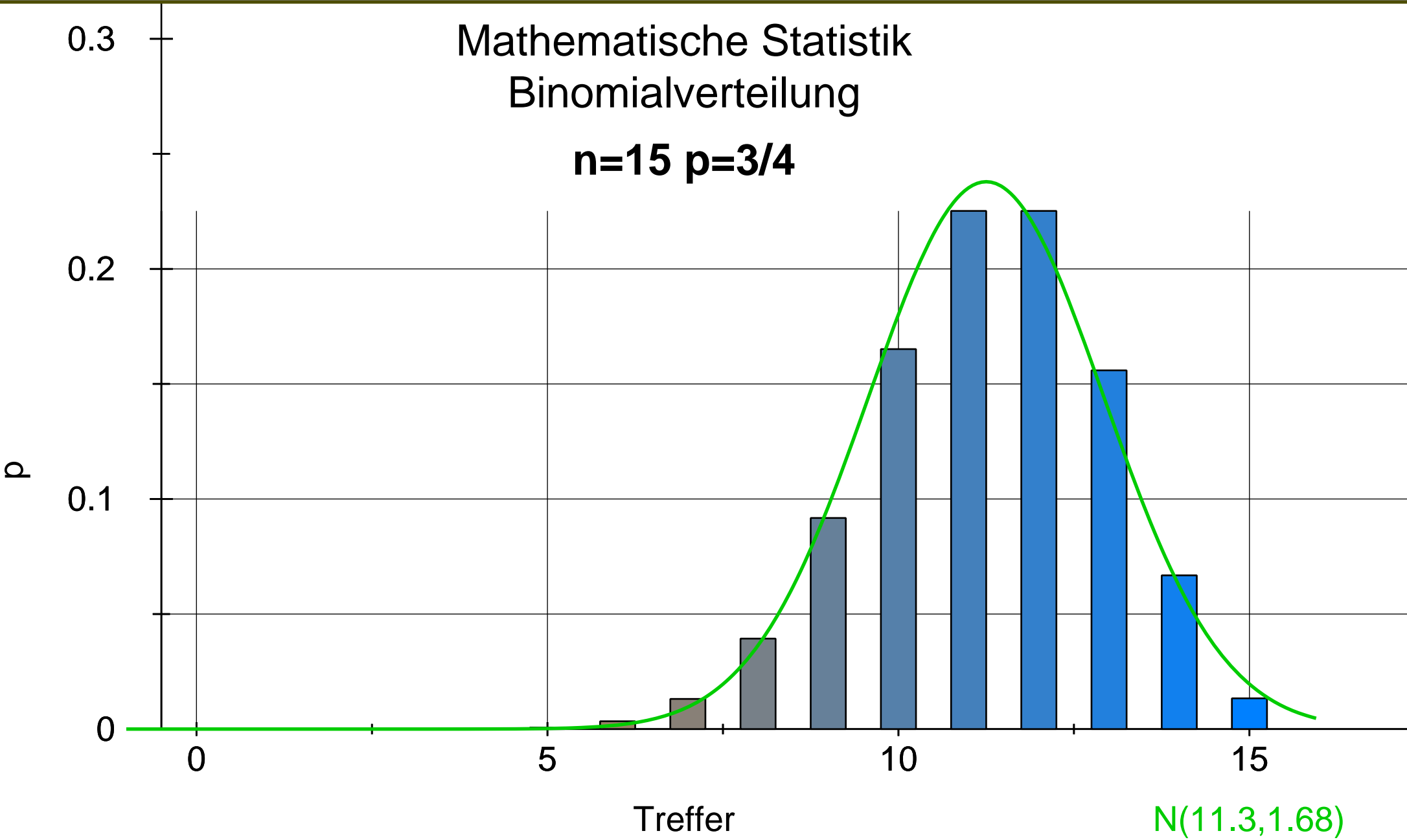
n=14 p=3/4



$N(10.5, 1.62)$

Mathematische Statistik
Binomialverteilung

n=15 p=3/4



$N(11.3, 1.68)$

Mathematische Statistik
Binomialverteilung

n=16 p=3/4

p

0.3

0.2

0.1

0

0

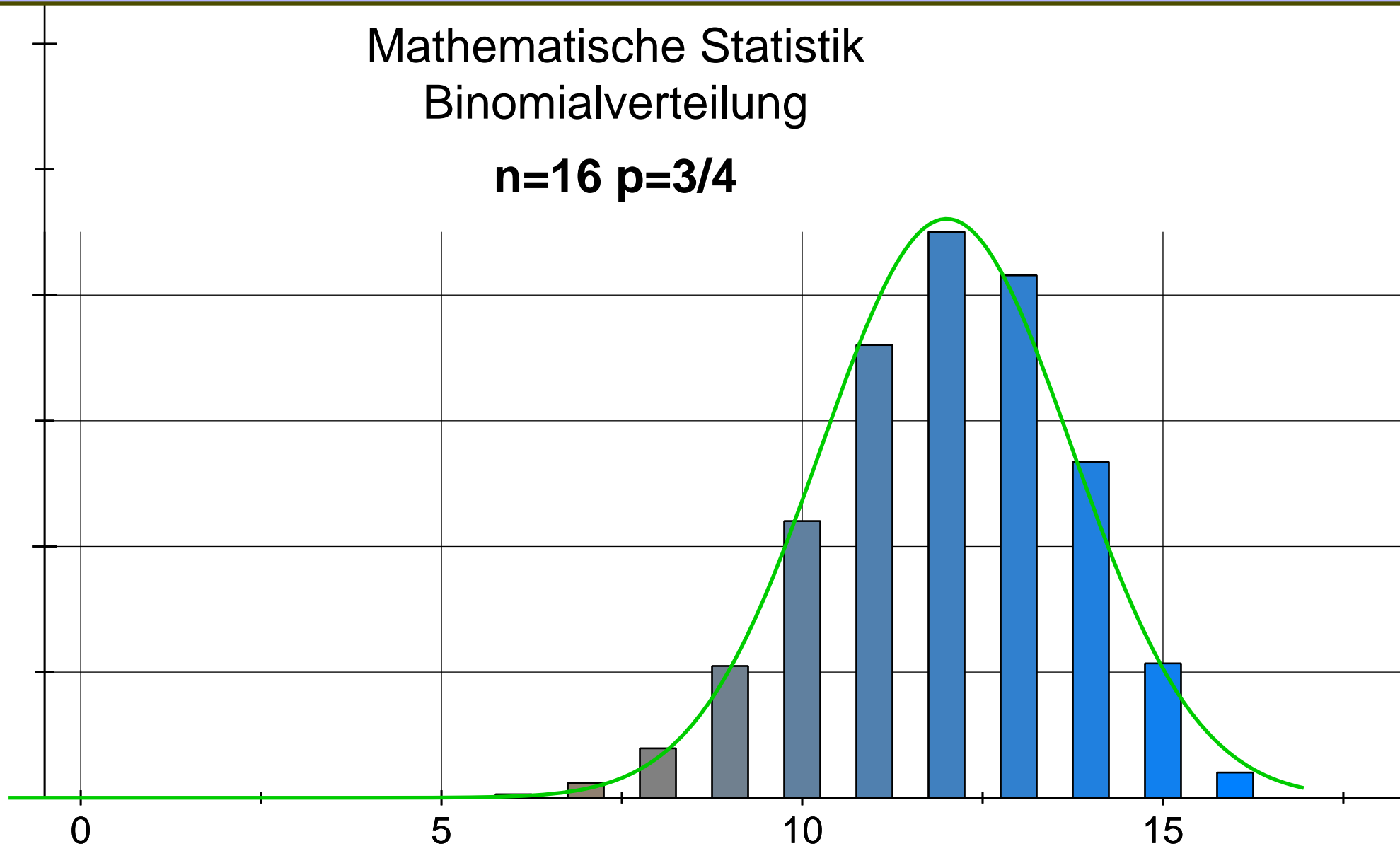
5

10

15

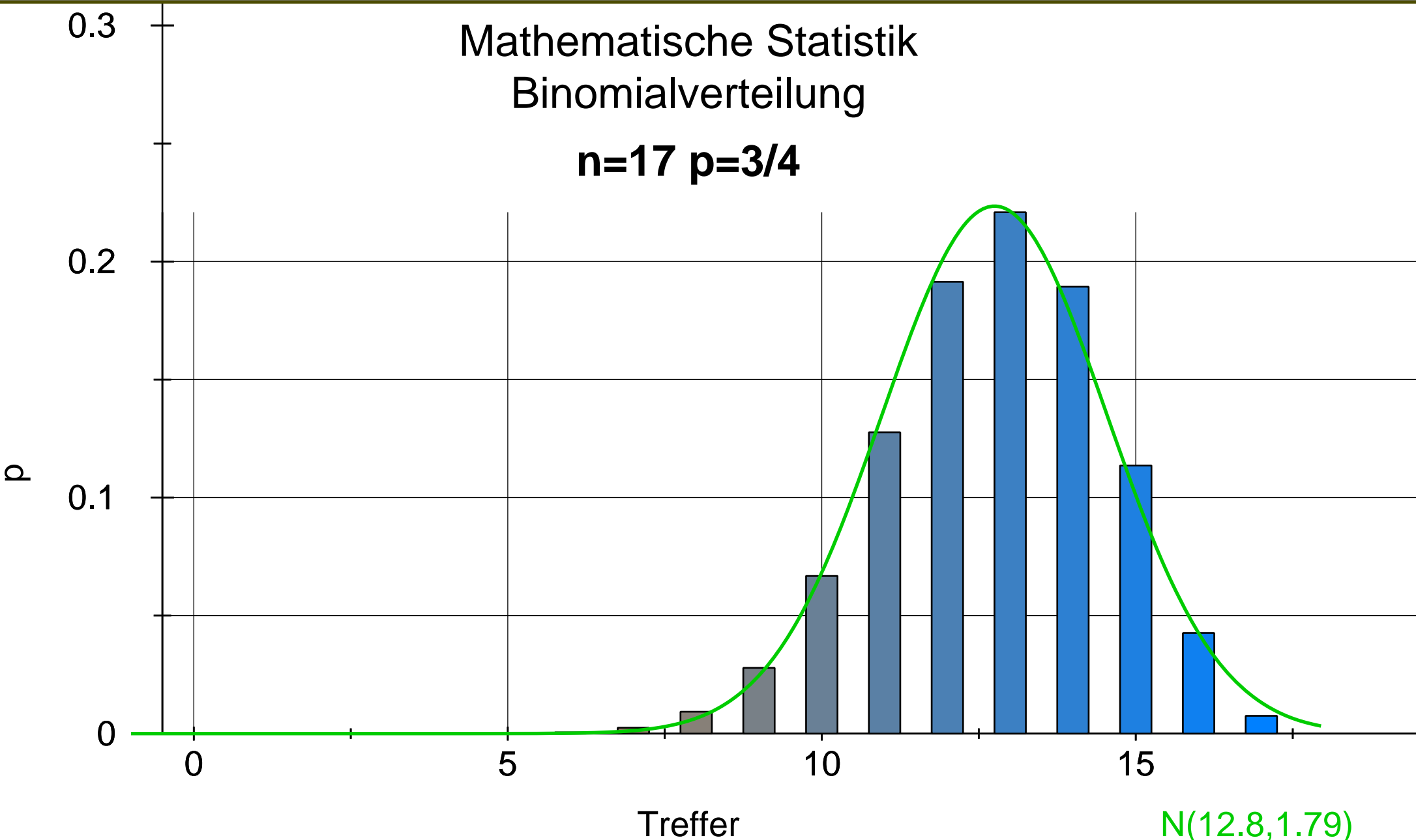
Treffer

$N(12.0, 1.73)$



Mathematische Statistik
Binomialverteilung

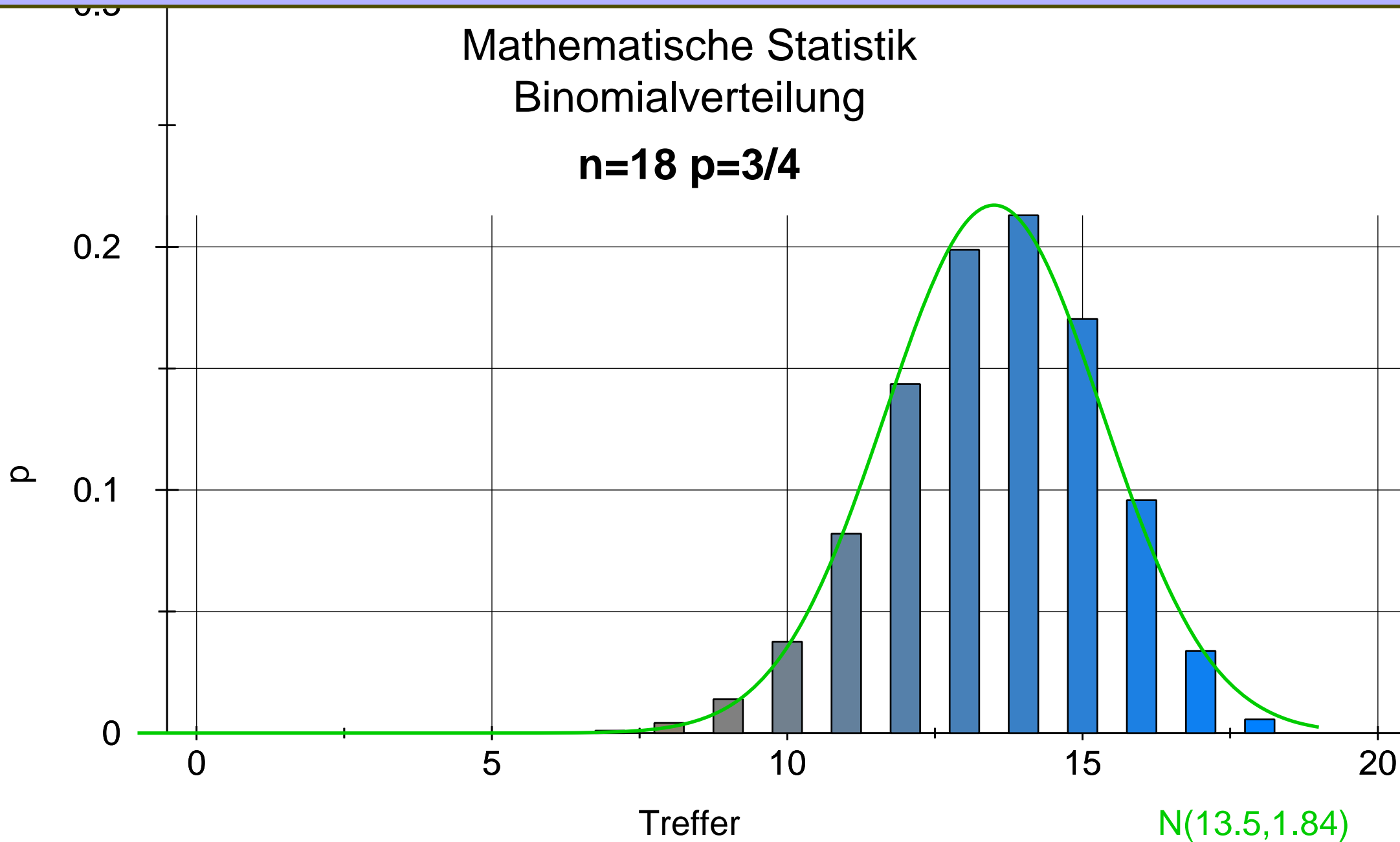
n=17 p=3/4



$N(12.8, 1.79)$

Mathematische Statistik
Binomialverteilung

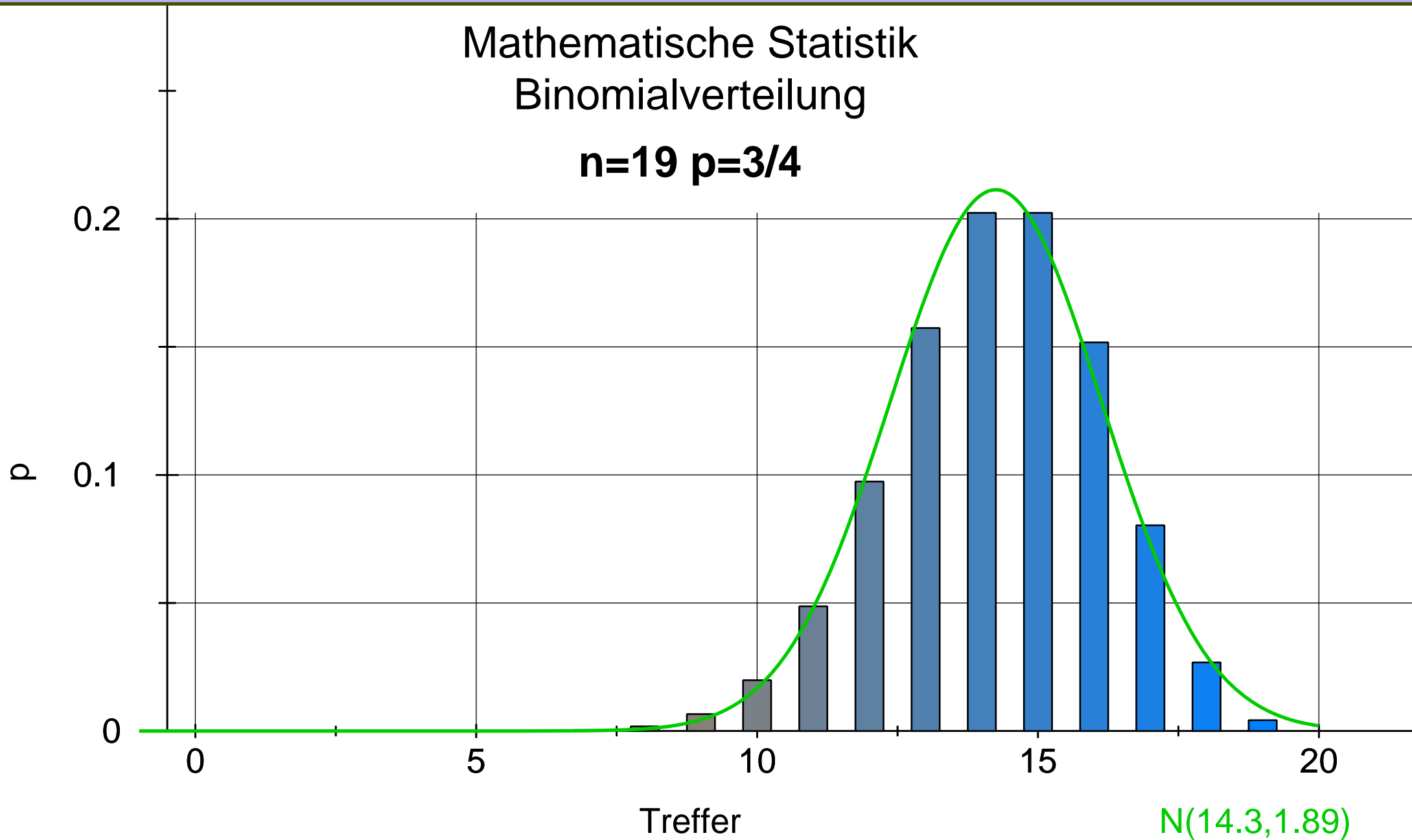
n=18 p=3/4



Mathematische Statistik

Binomialverteilung

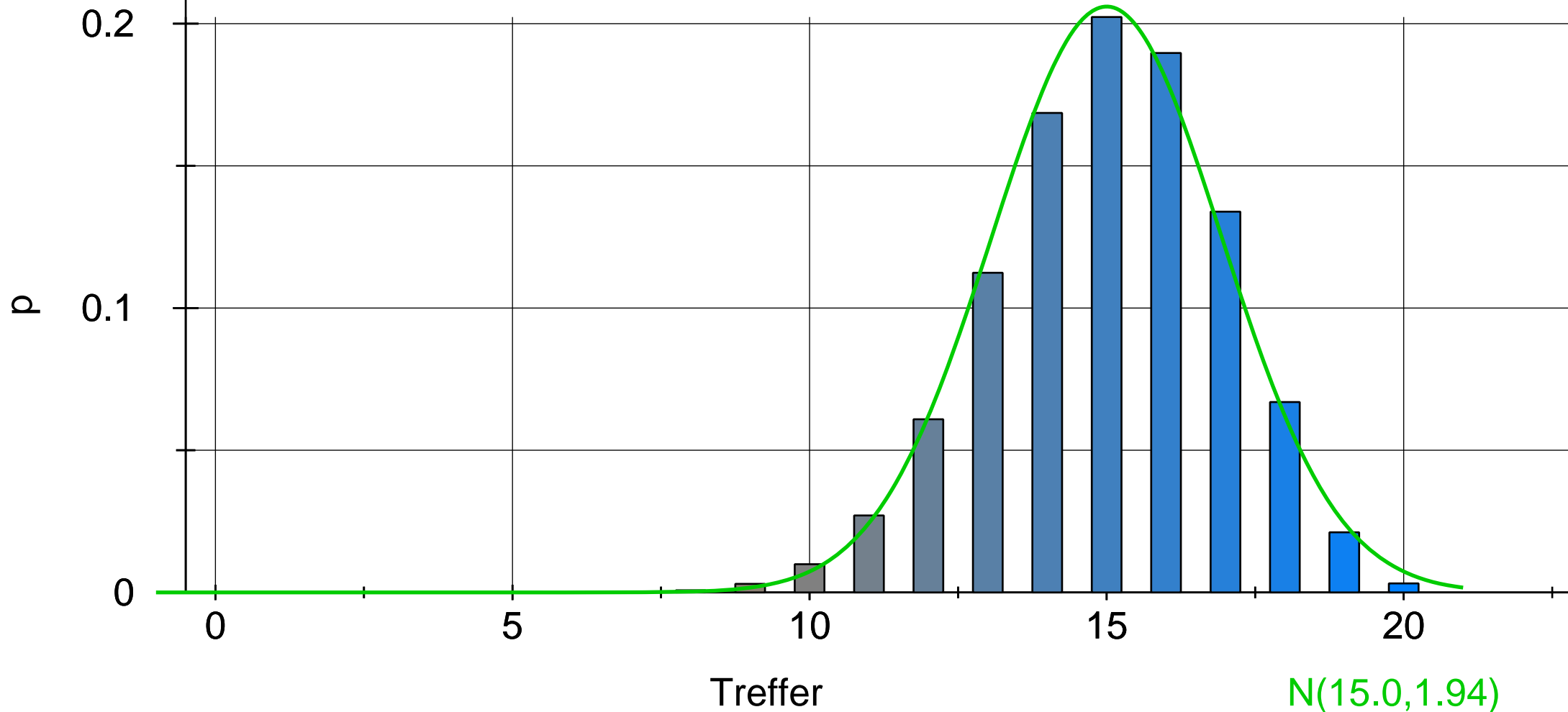
n=19 p=3/4



$N(14.3, 1.89)$

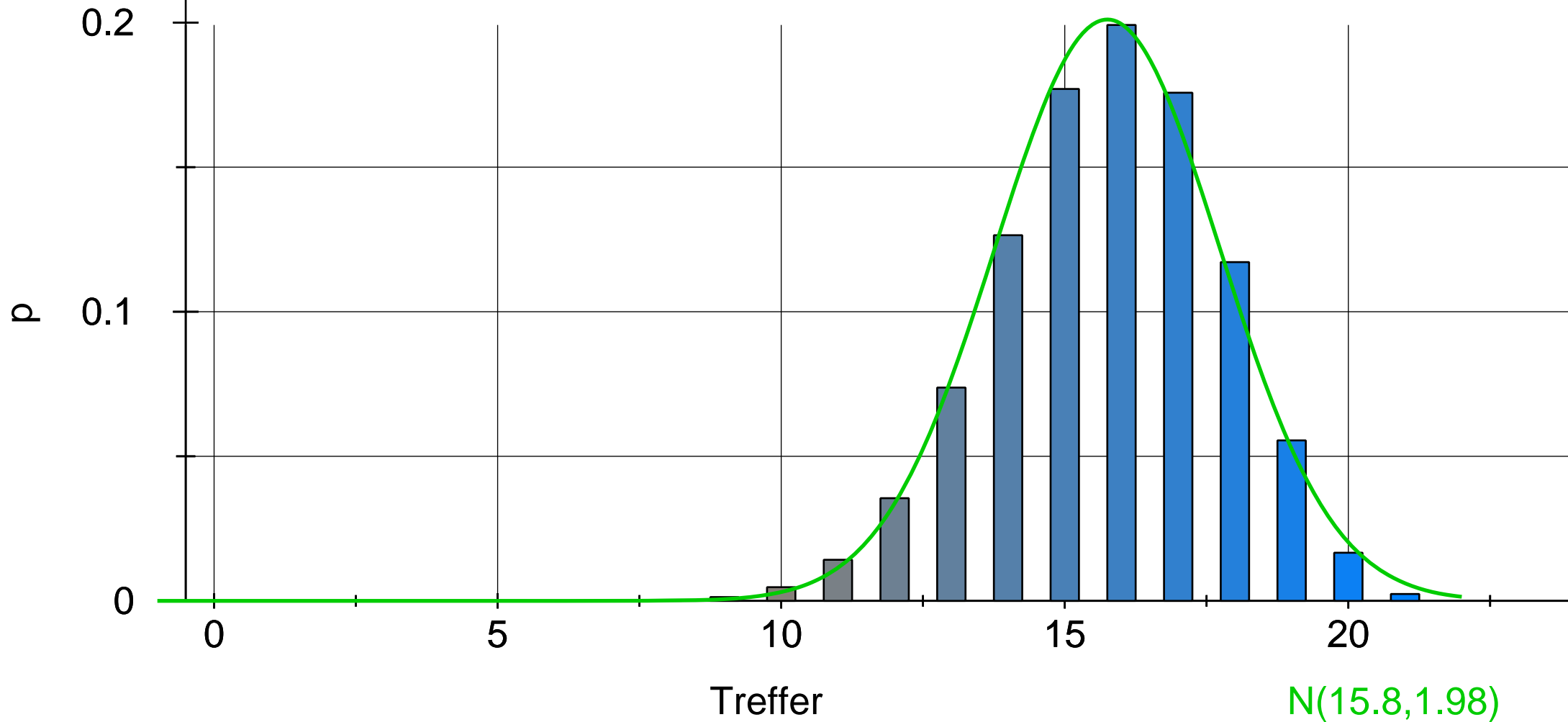
Mathematische Statistik
Binomialverteilung

n=20 p=3/4



Mathematische Statistik Binomialverteilung

n=21 p=3/4



Mathematische Statistik

Binomialverteilung

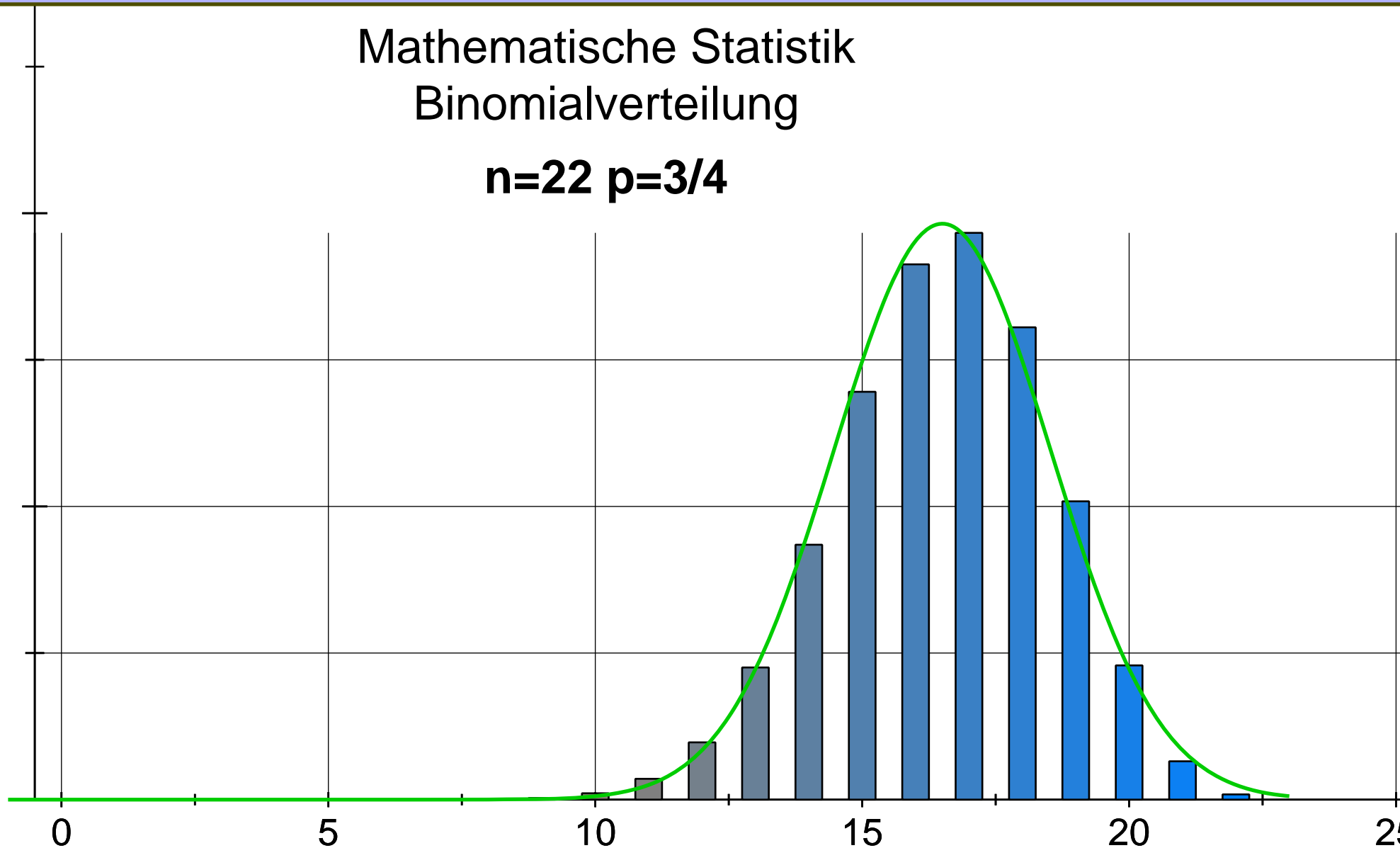
$n=22$ $p=3/4$

p

0.2

0.1

0

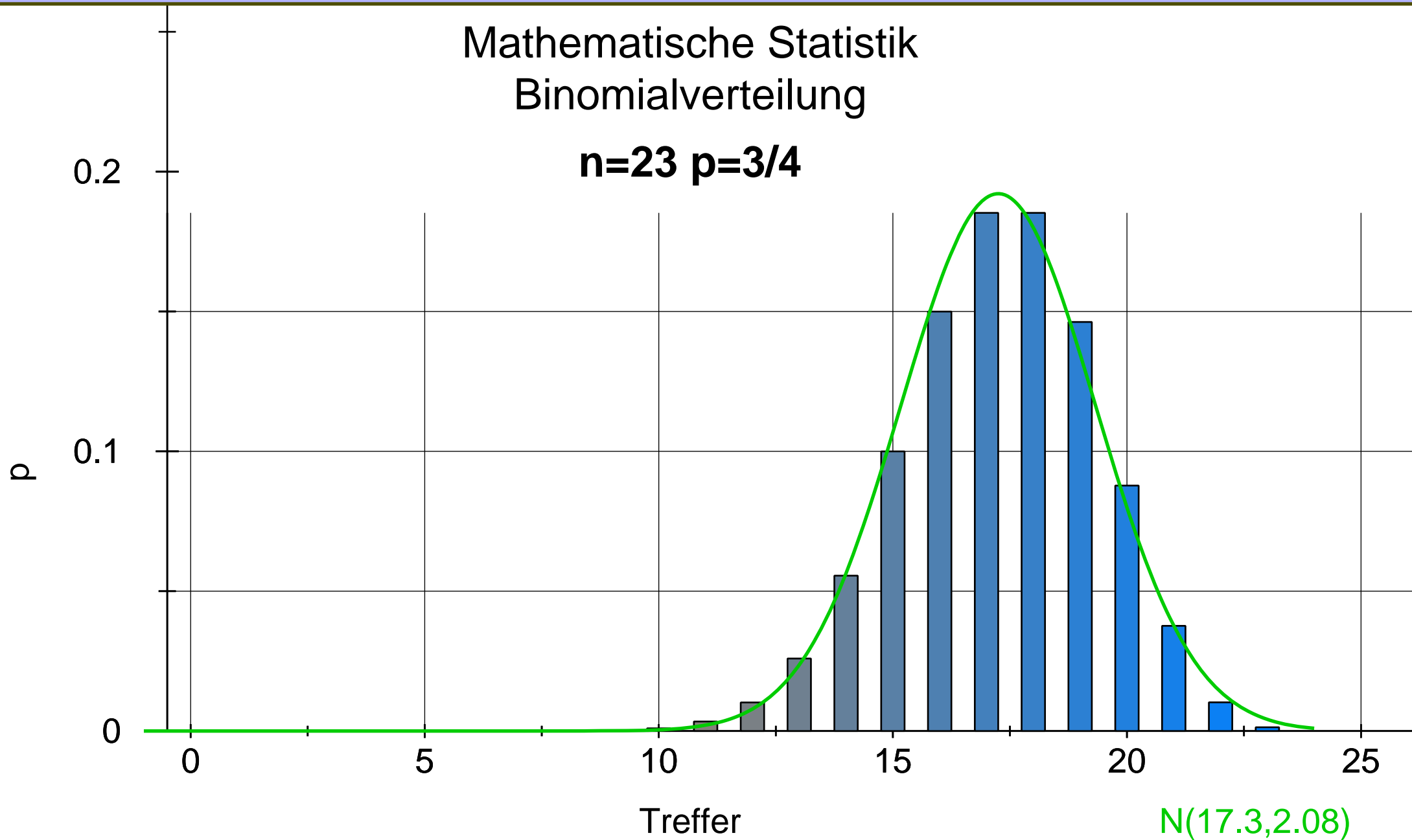


Treffer

$N(16.5, 2.03)$

Mathematische Statistik
Binomialverteilung

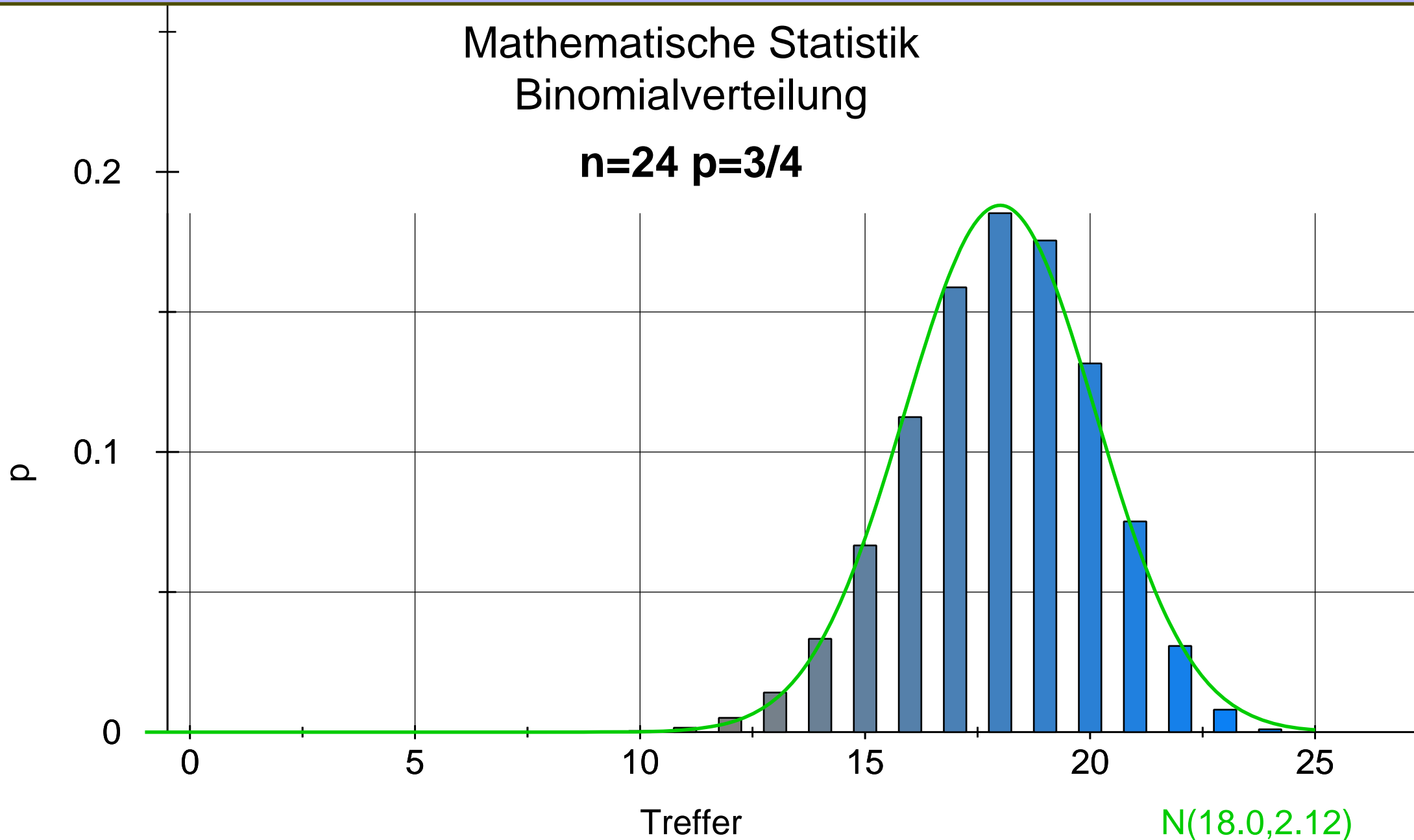
n=23 p=3/4



Mathematische Statistik

Binomialverteilung

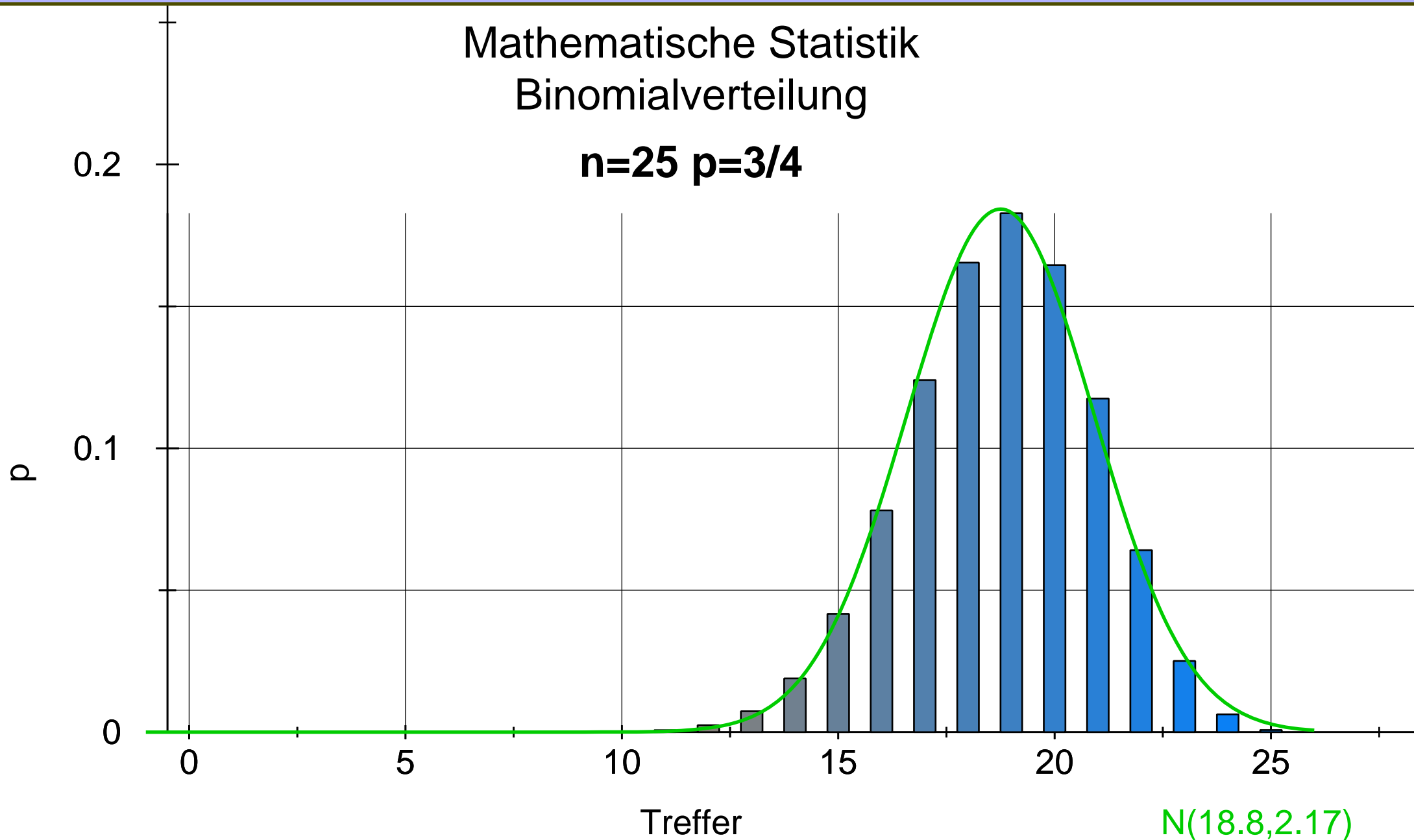
$n=24$ $p=3/4$



$N(18.0, 2.12)$

Mathematische Statistik
Binomialverteilung

n=25 p=3/4

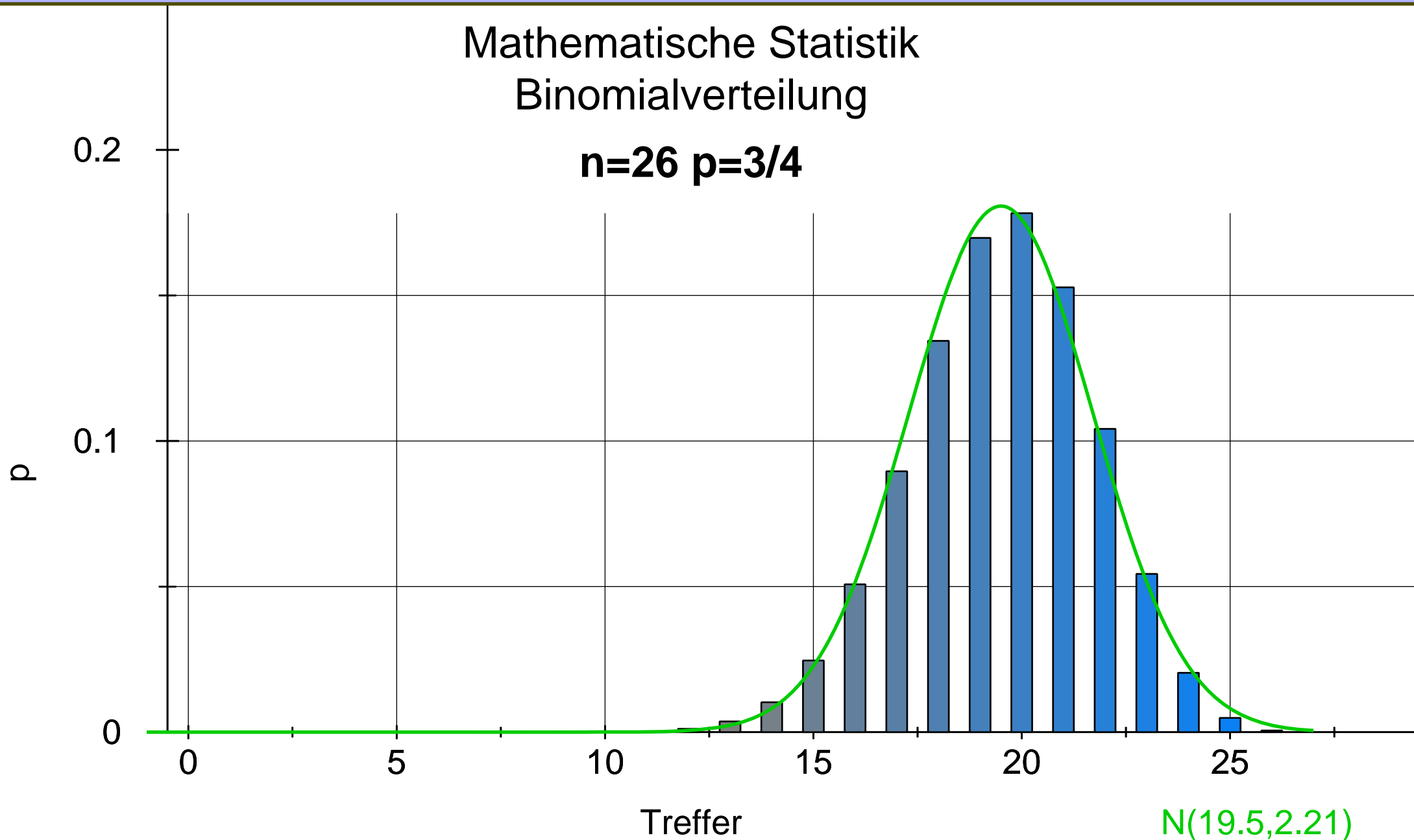


$N(18.8, 2.17)$

Mathematische Statistik

Binomialverteilung

$n=26$ $p=3/4$

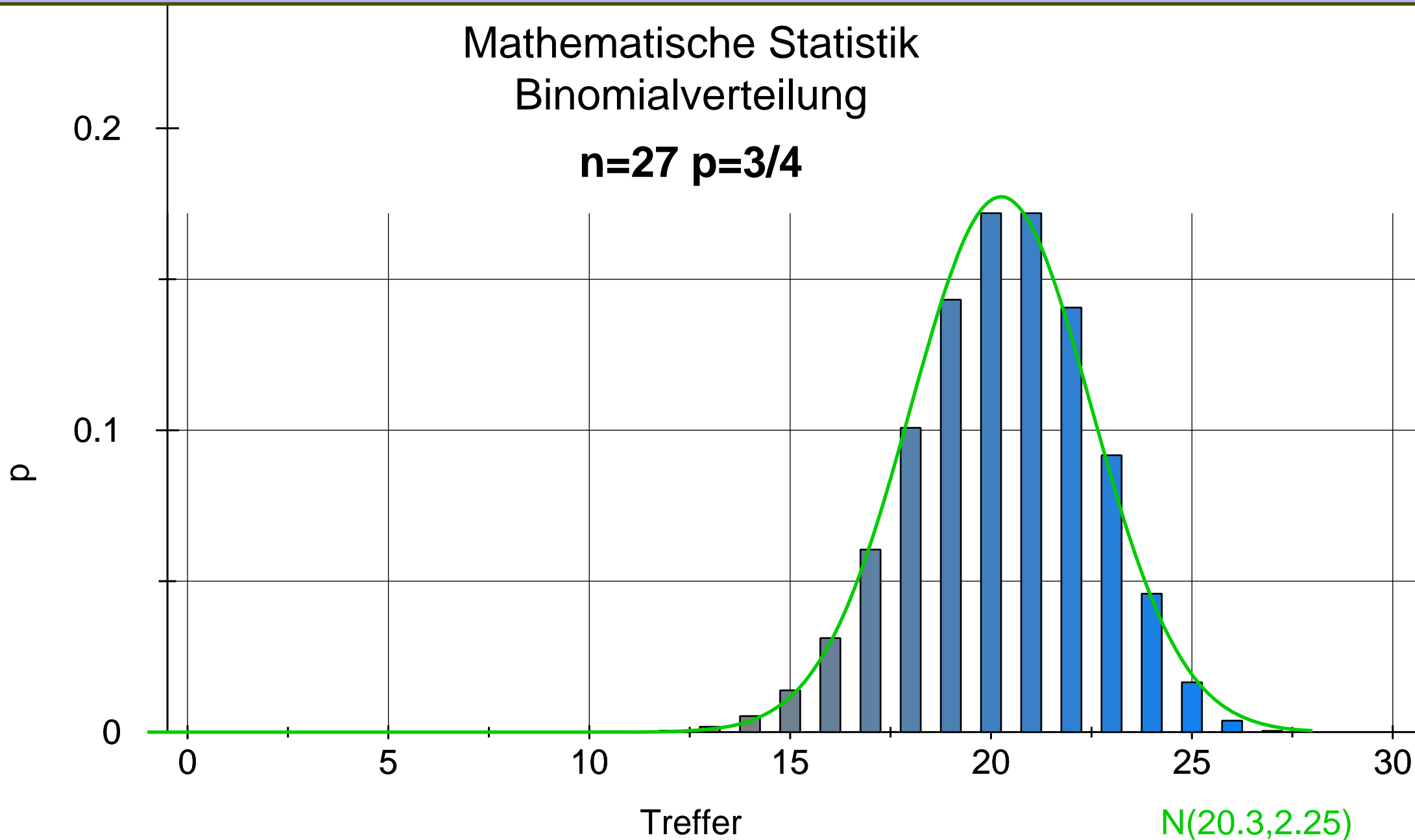


$N(19.5, 2.21)$

Mathematische Statistik

Binomialverteilung

n=27 p=3/4

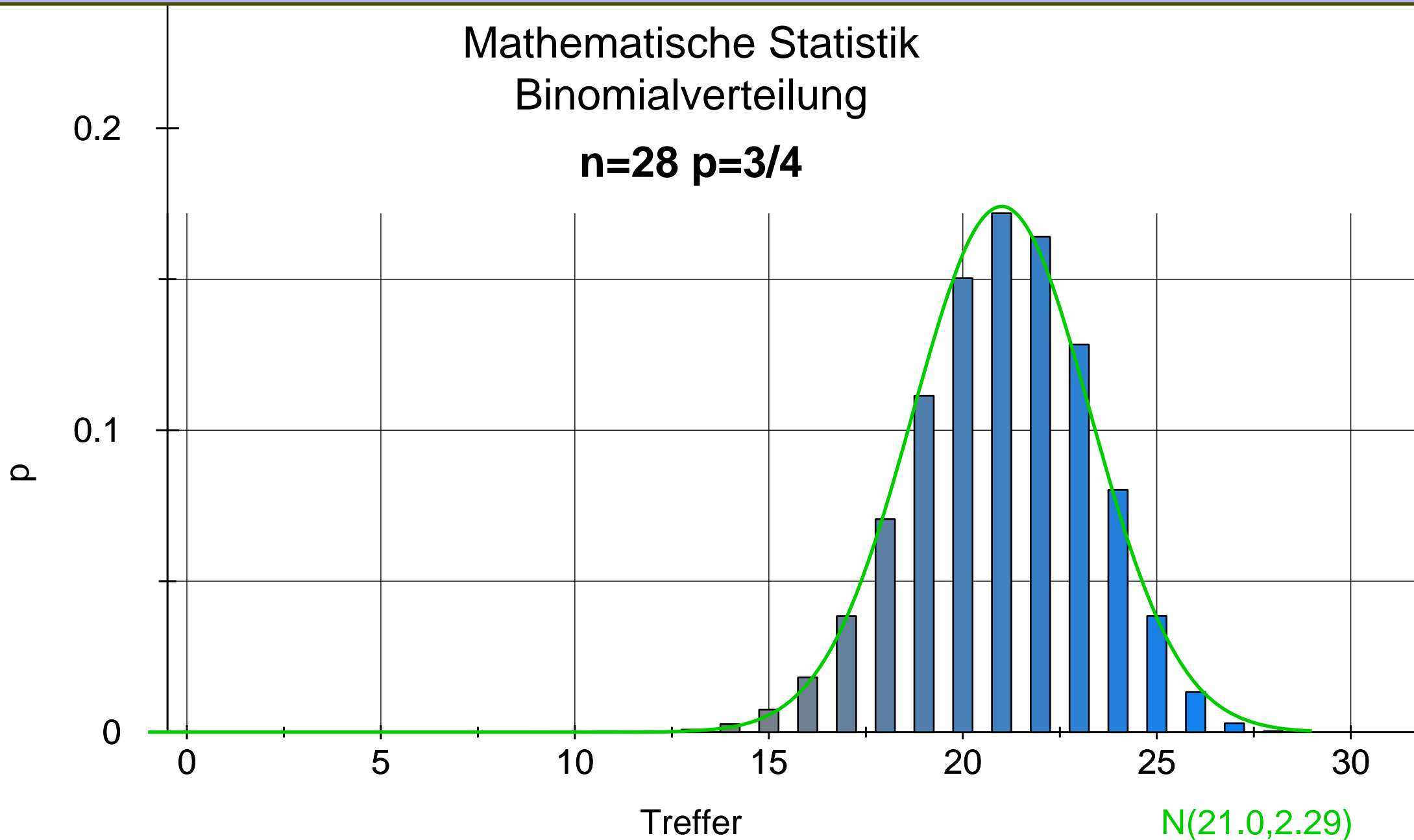


$N(20.3, 2.25)$

Mathematische Statistik

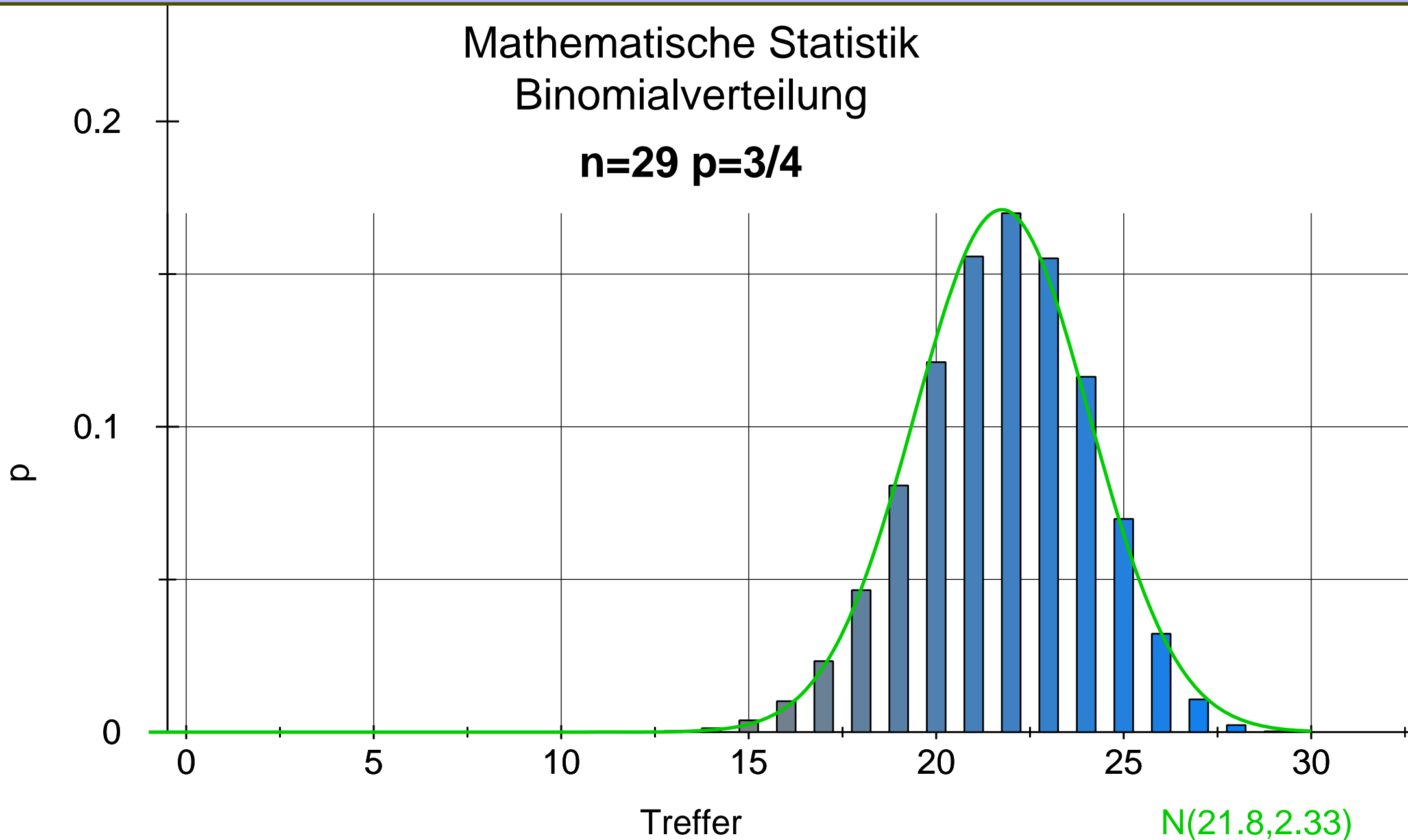
Binomialverteilung

n=28 p=3/4



Mathematische Statistik
Binomialverteilung

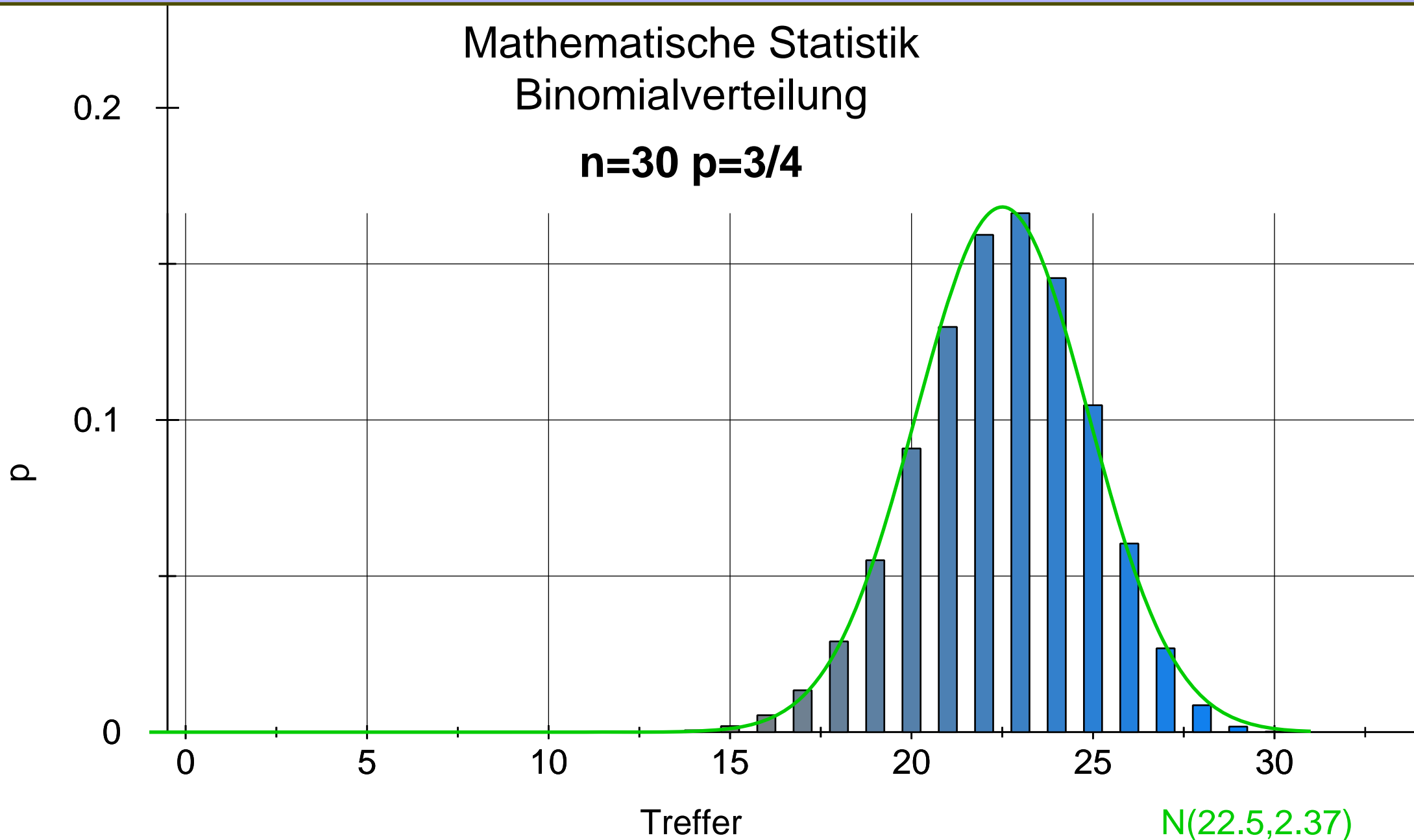
n=29 p=3/4



Mathematische Statistik

Binomialverteilung

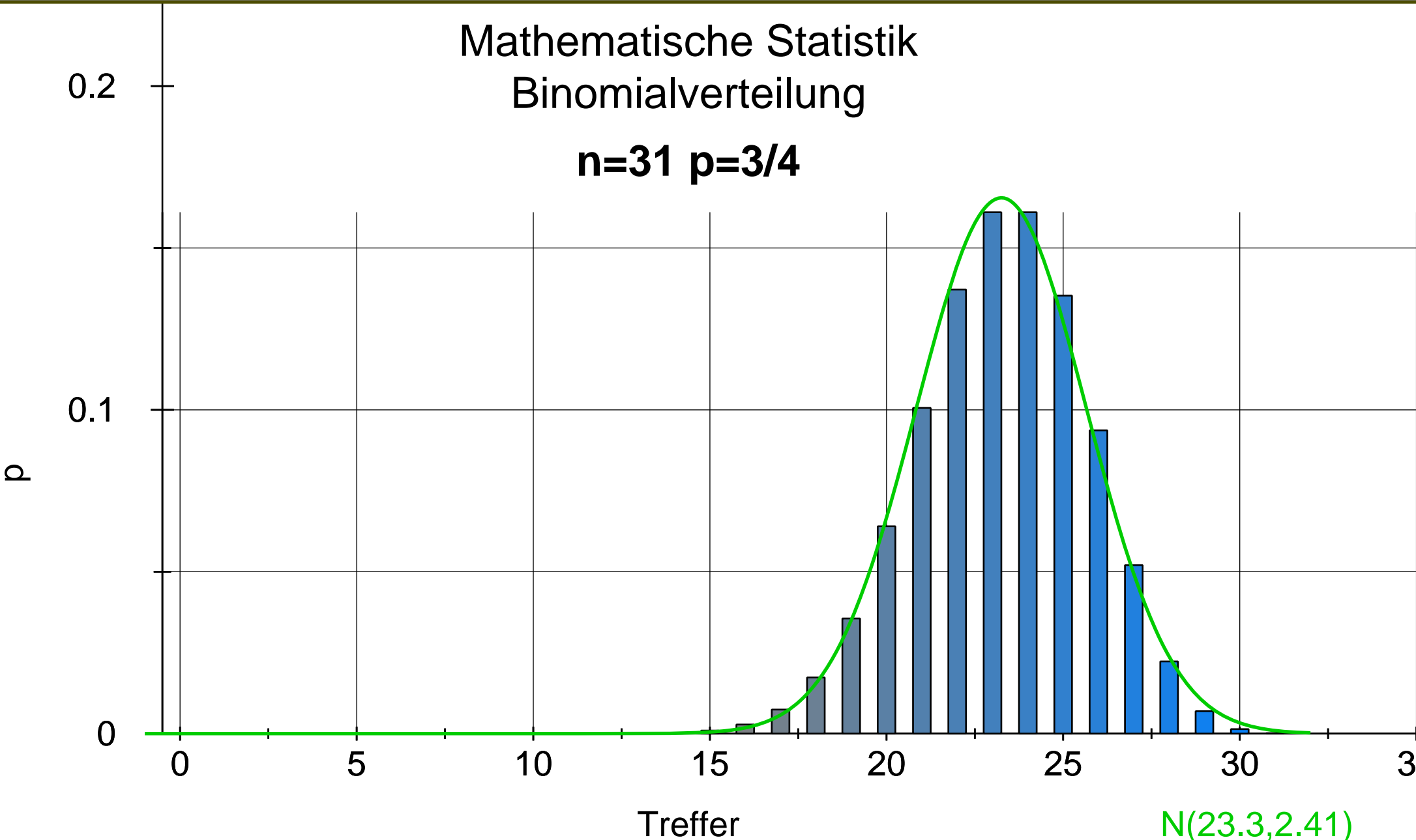
$n=30$ $p=3/4$



$N(22.5, 2.37)$

Mathematische Statistik
Binomialverteilung

n=31 p=3/4

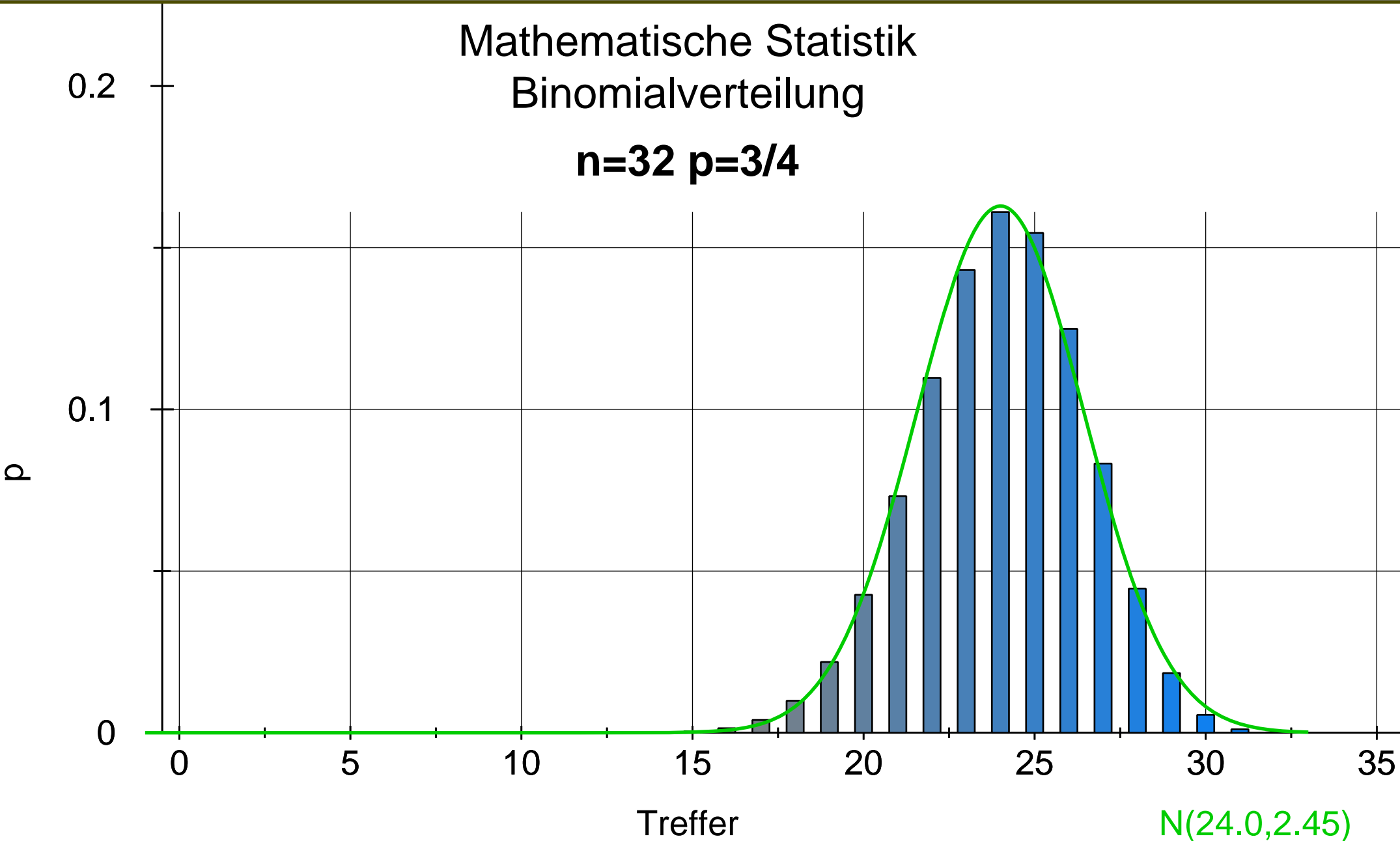


$N(23.3, 2.41)$

Mathematische Statistik

Binomialverteilung

n=32 p=3/4

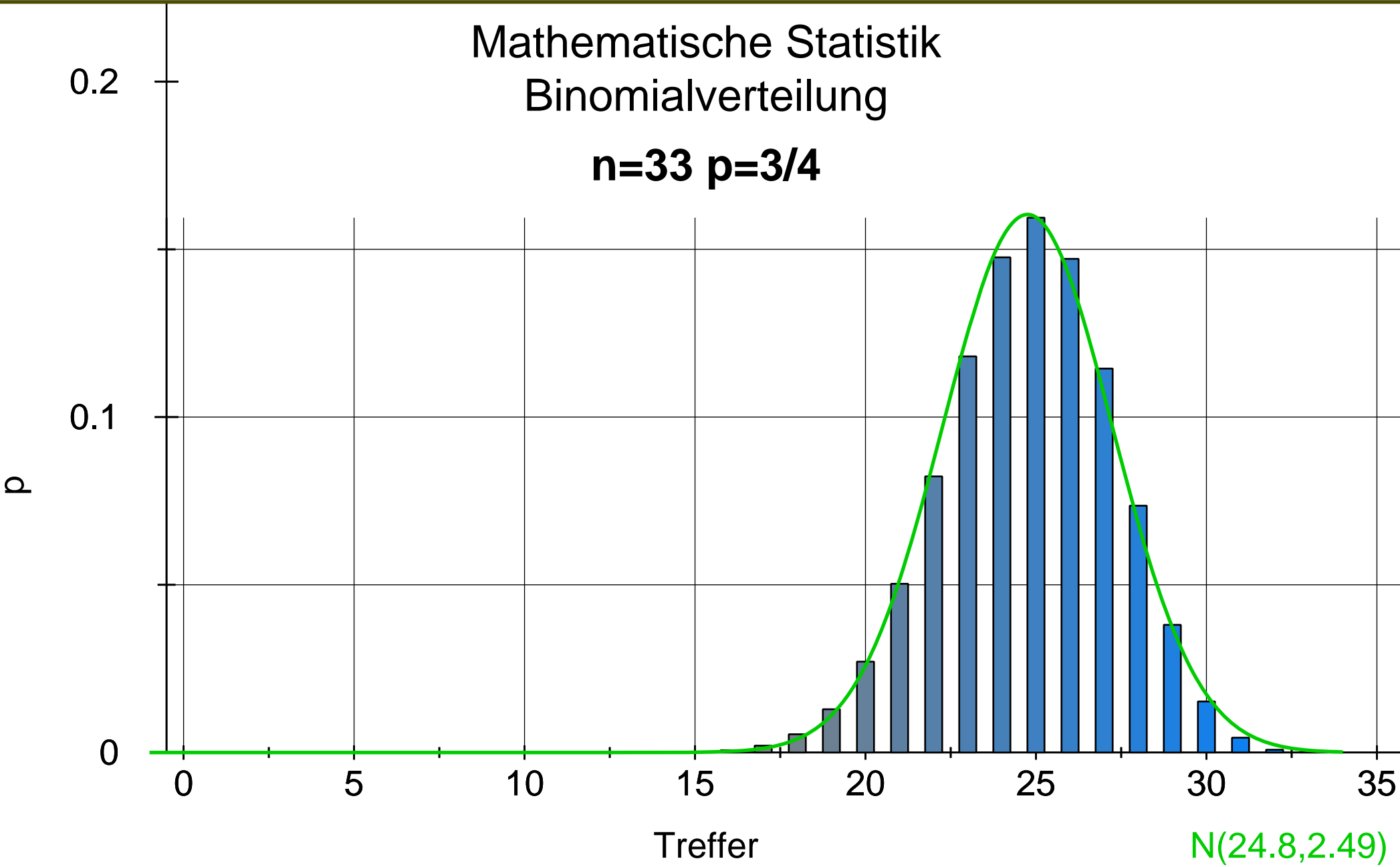


$N(24.0, 2.45)$

Mathematische Statistik

Binomialverteilung

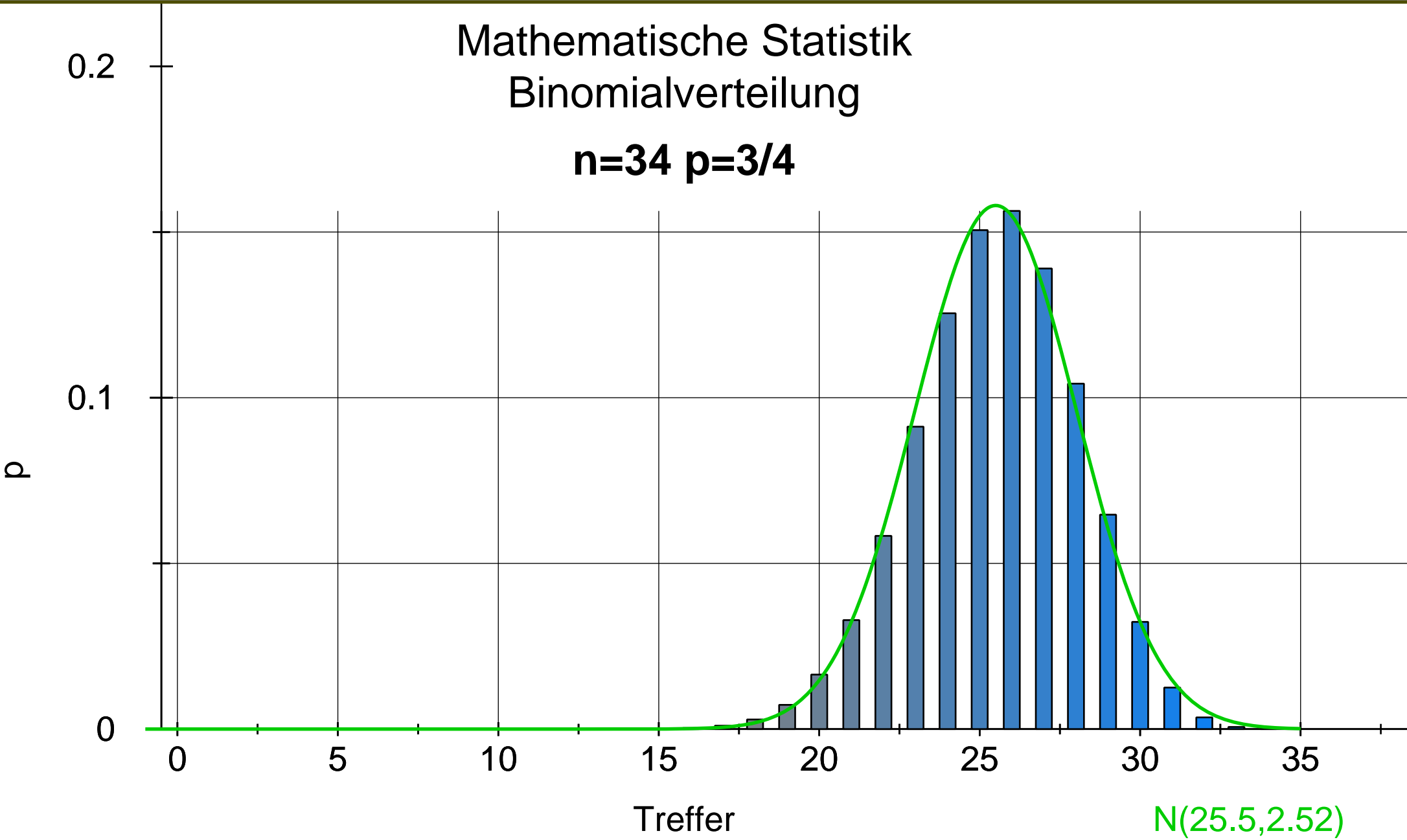
n=33 p=3/4



Mathematische Statistik

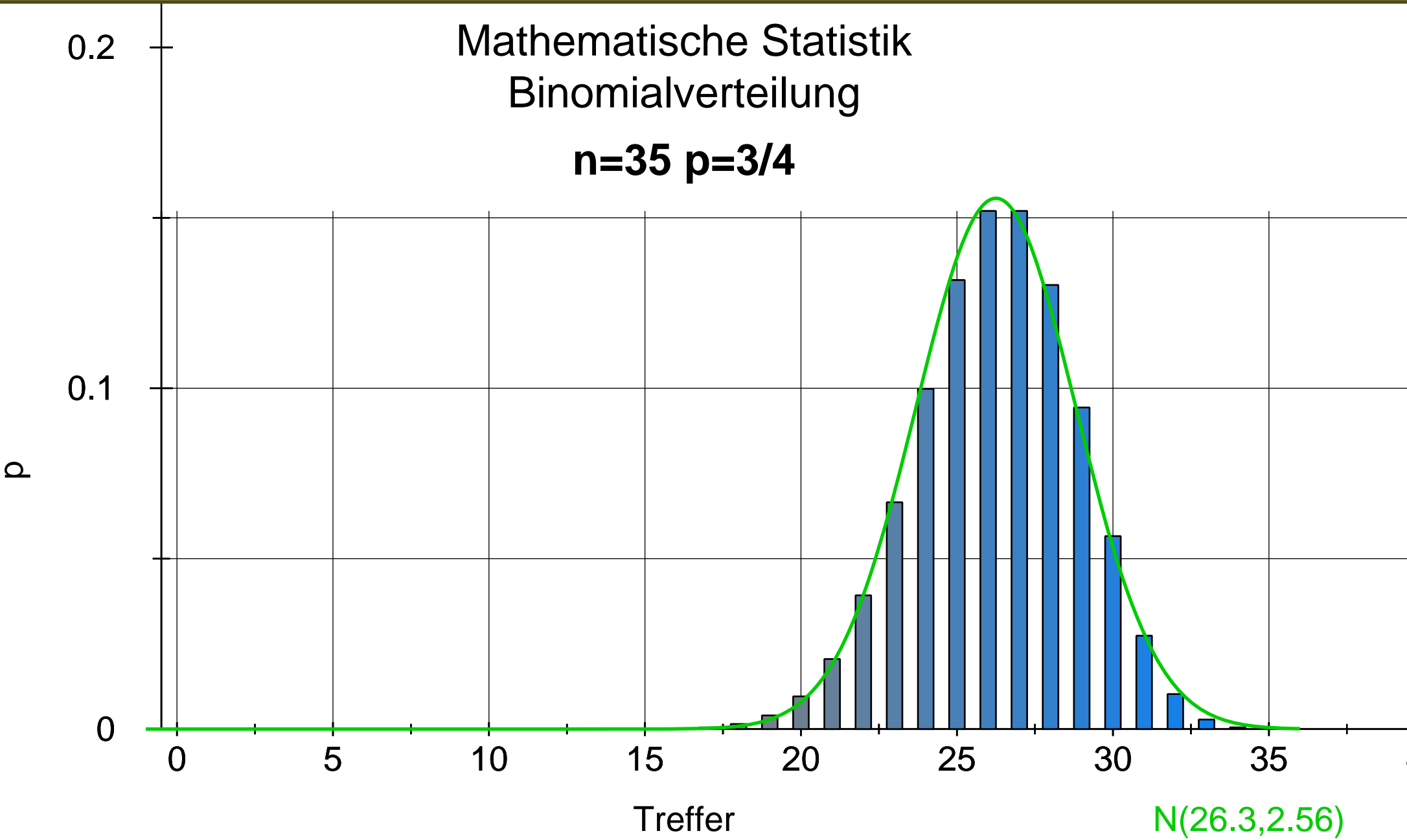
Binomialverteilung

n=34 p=3/4



Mathematische Statistik
Binomialverteilung

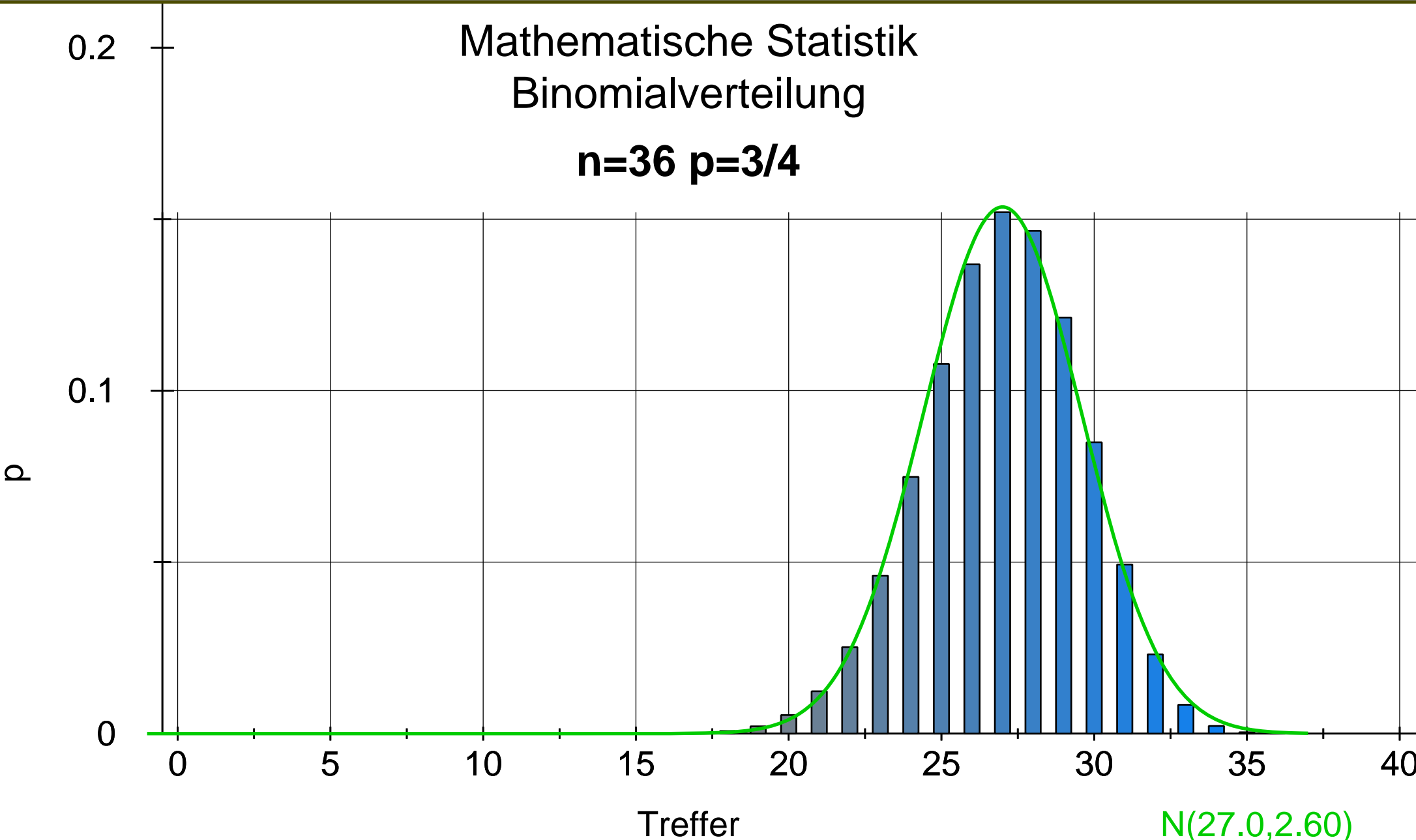
n=35 p=3/4



$N(26.3, 2.56)$

Mathematische Statistik
Binomialverteilung

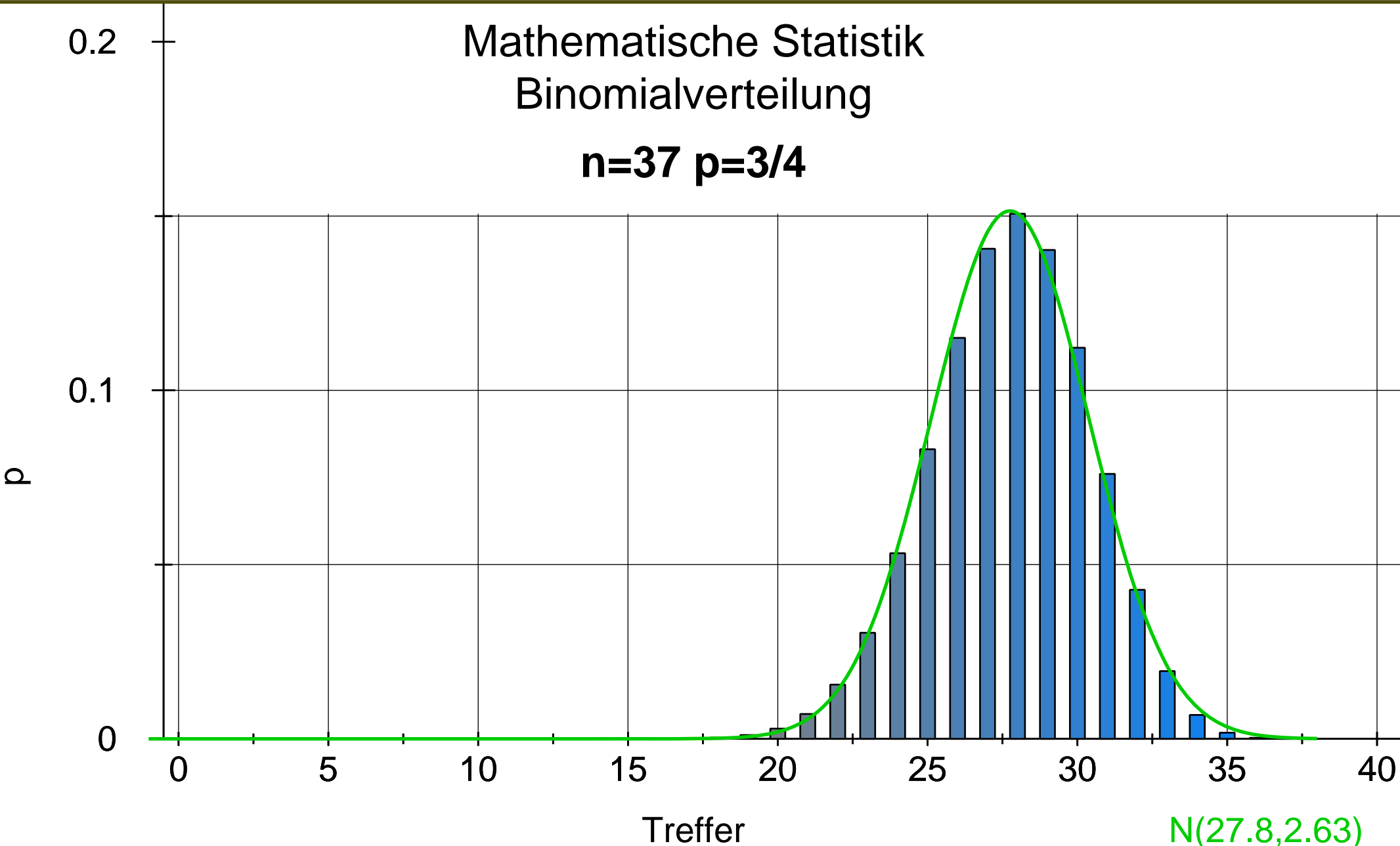
n=36 p=3/4



$N(27.0, 2.60)$

Mathematische Statistik Binomialverteilung

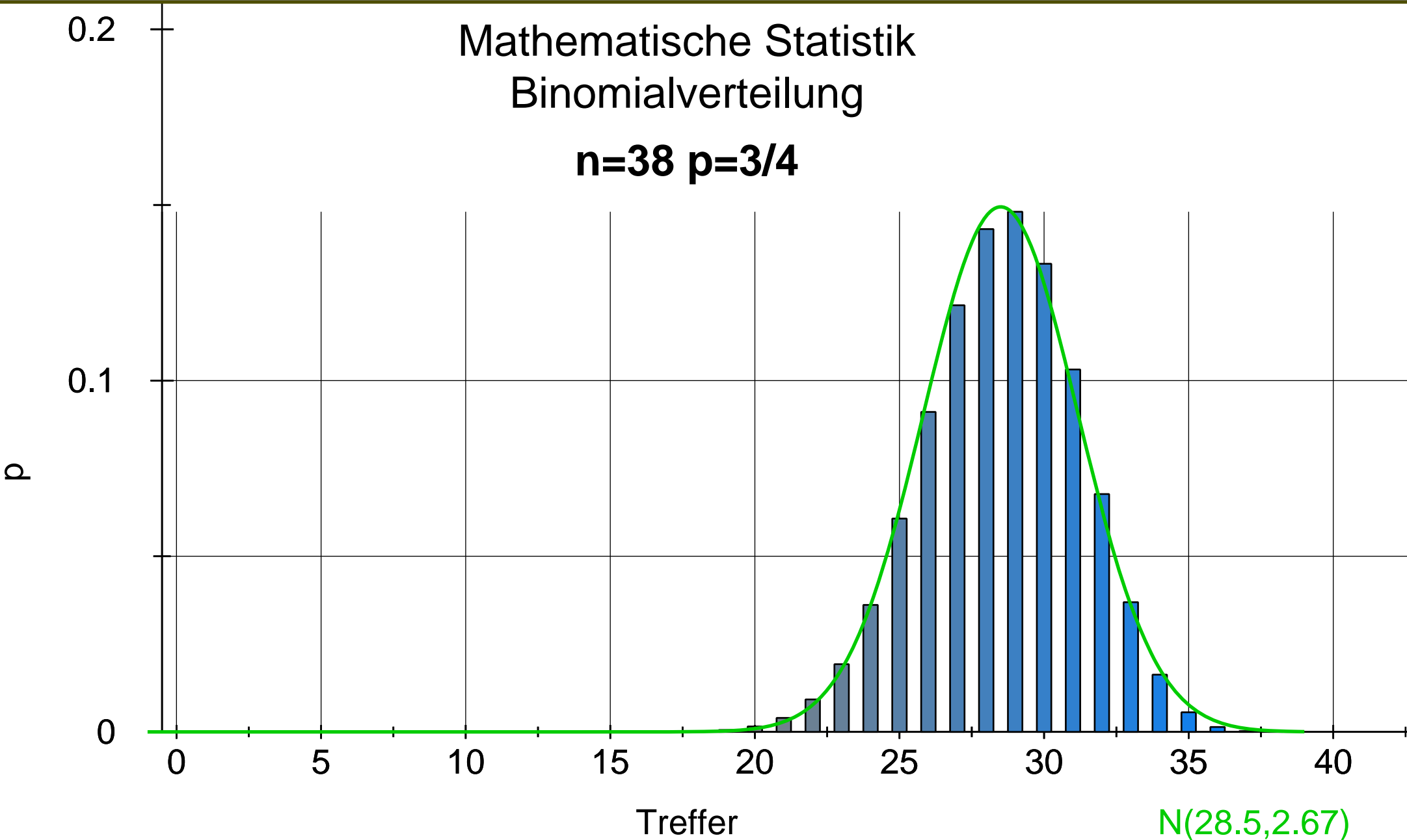
n=37 p=3/4



$N(27.8, 2.63)$

Mathematische Statistik
Binomialverteilung

n=38 p=3/4



Mathematische Statistik
Binomialverteilung

n=39 p=3/4

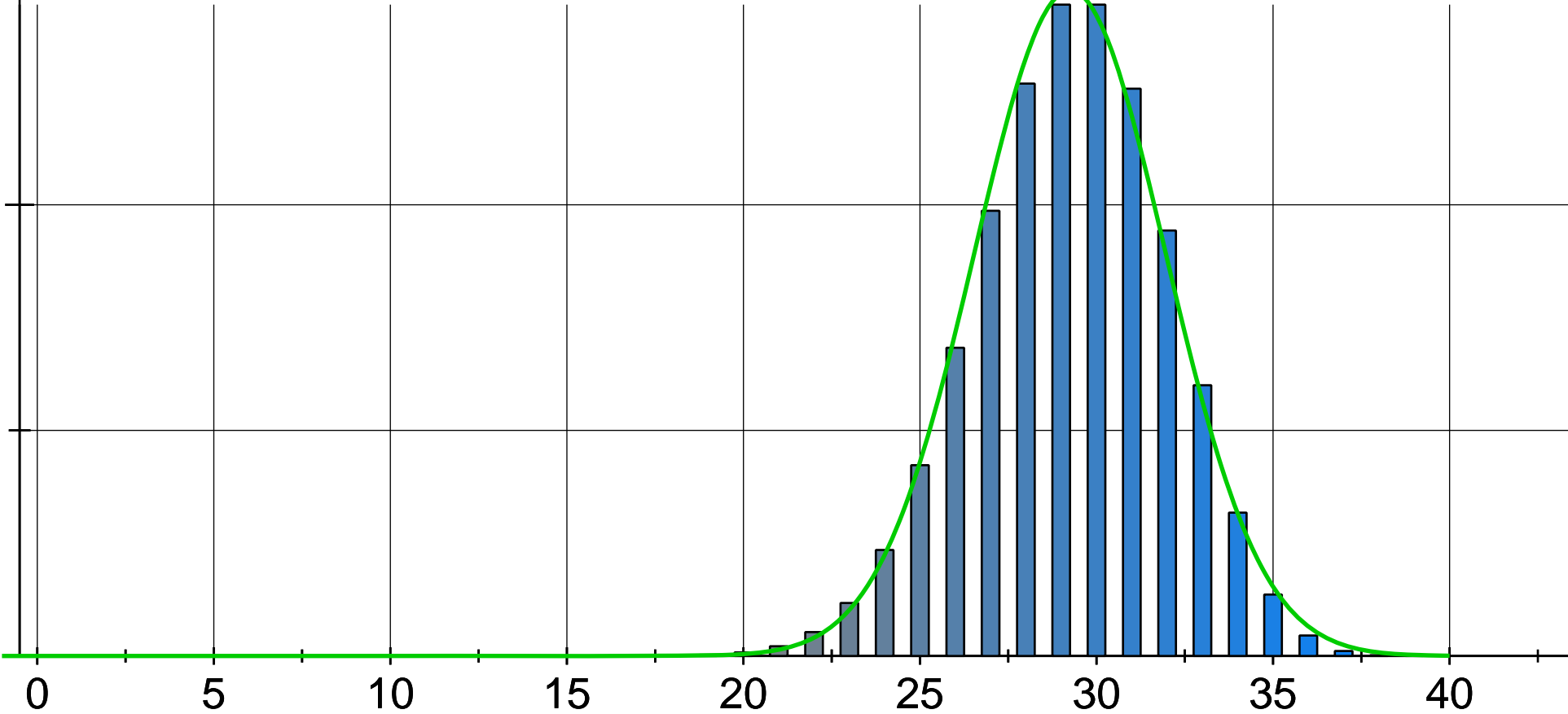
p

0.2
0.1
0

0 5 10 15 20 25 30 35 40

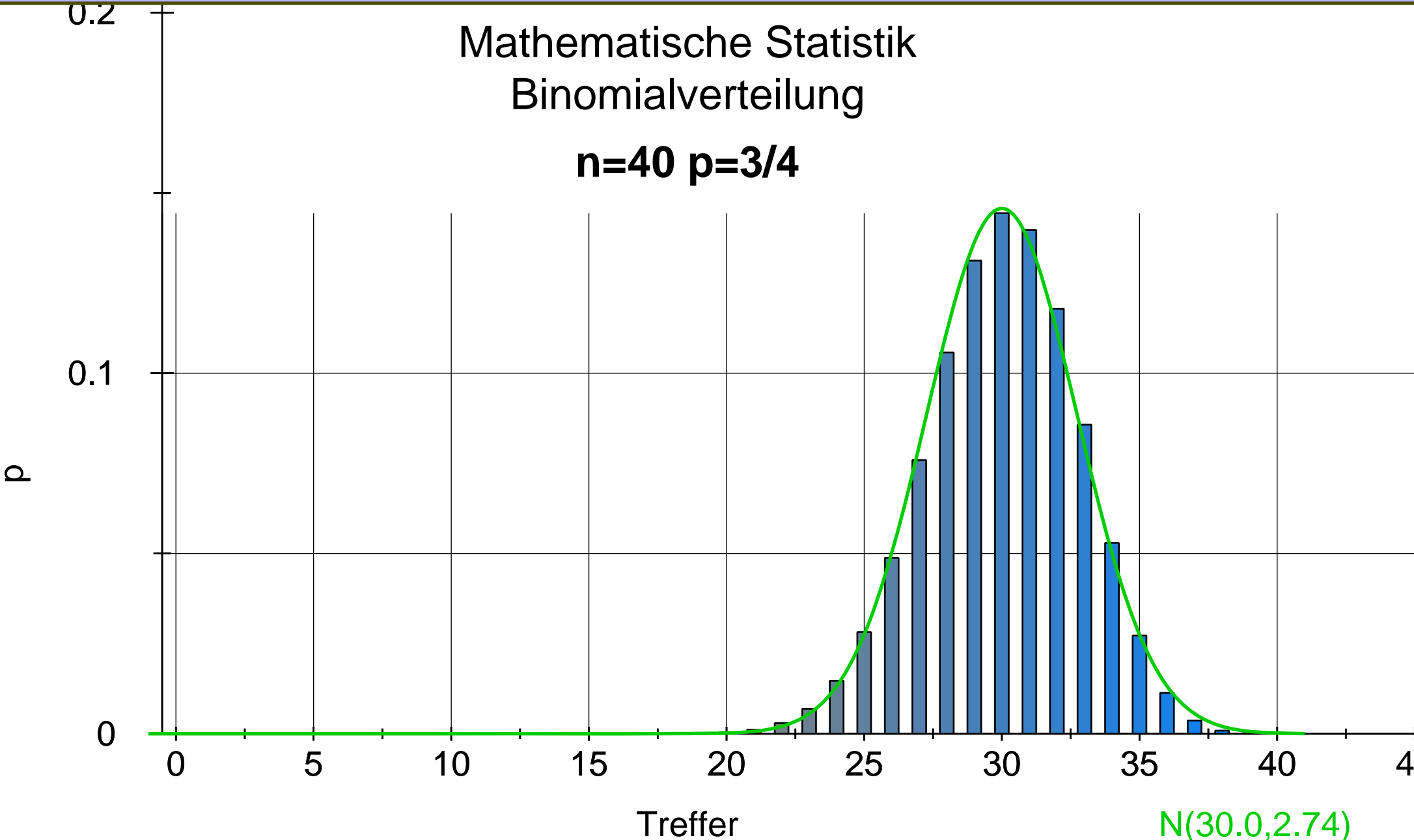
Treffer

$N(29.3, 2.70)$



Mathematische Statistik
Binomialverteilung

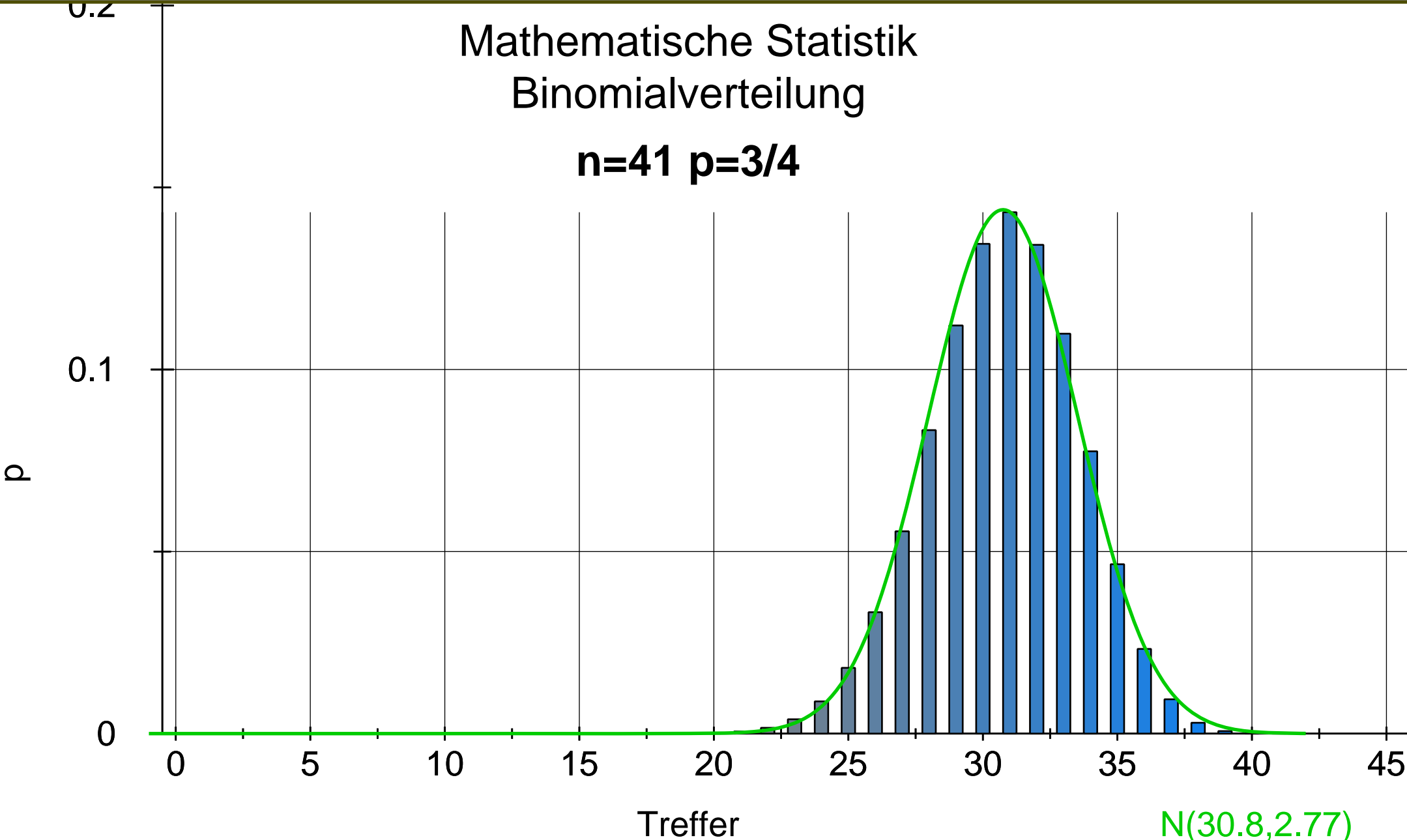
n=40 p=3/4



$N(30.0, 2.74)$

Mathematische Statistik
Binomialverteilung

n=41 p=3/4

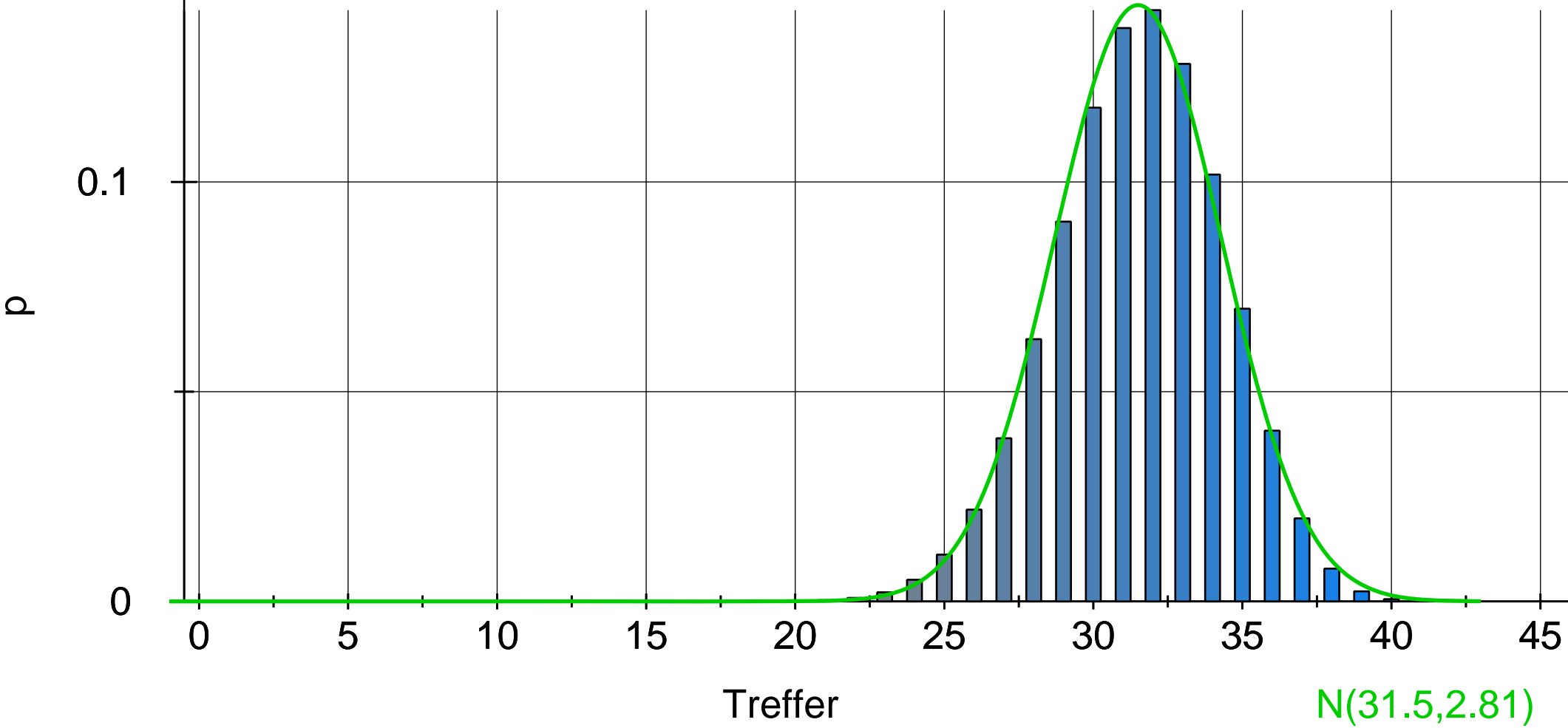


$N(30.8, 2.77)$

Mathematische Statistik

Binomialverteilung

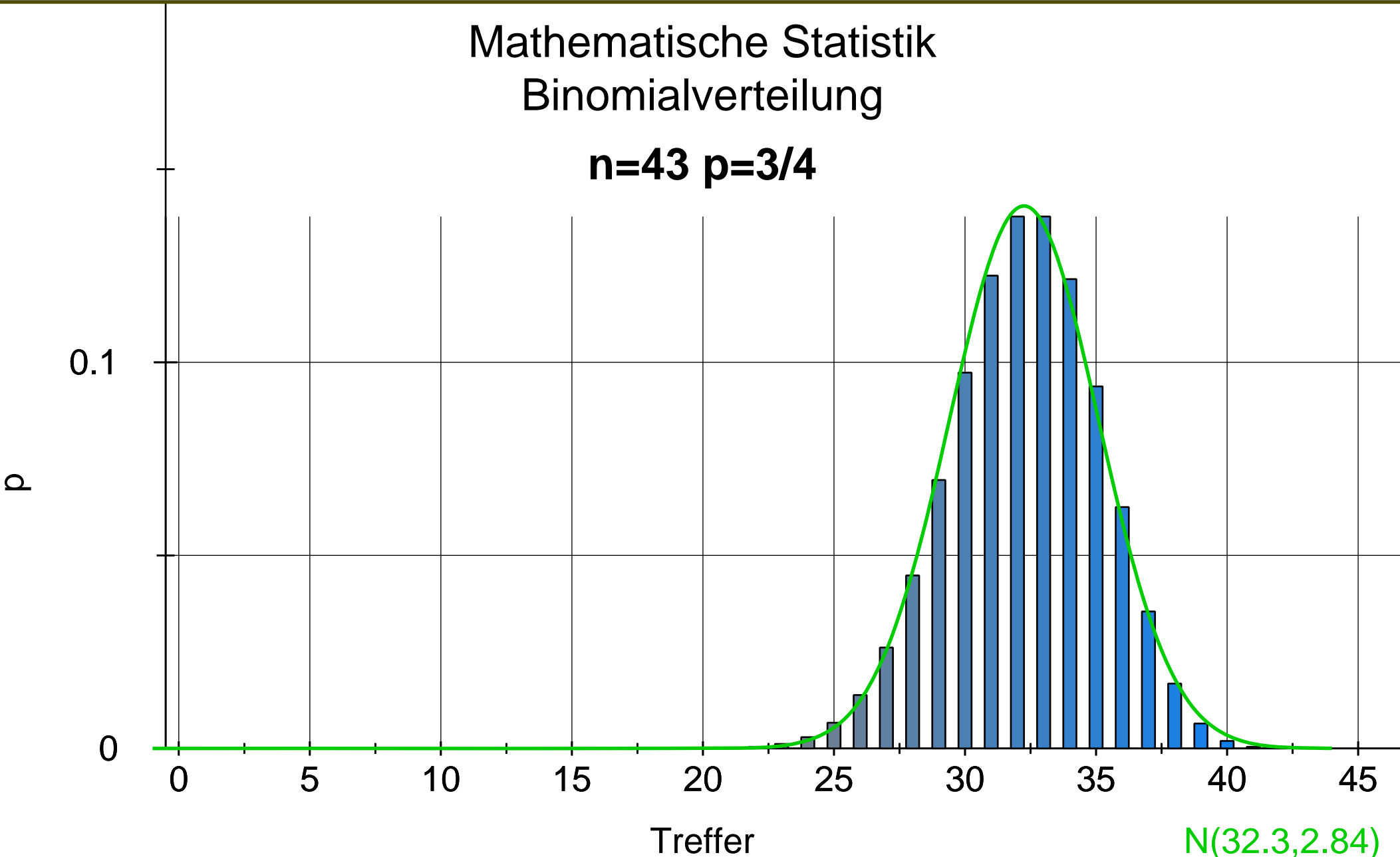
n=42 p=3/4



Mathematische Statistik

Binomialverteilung

n=43 p=3/4



Mathematische Statistik

Binomialverteilung

n=44 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

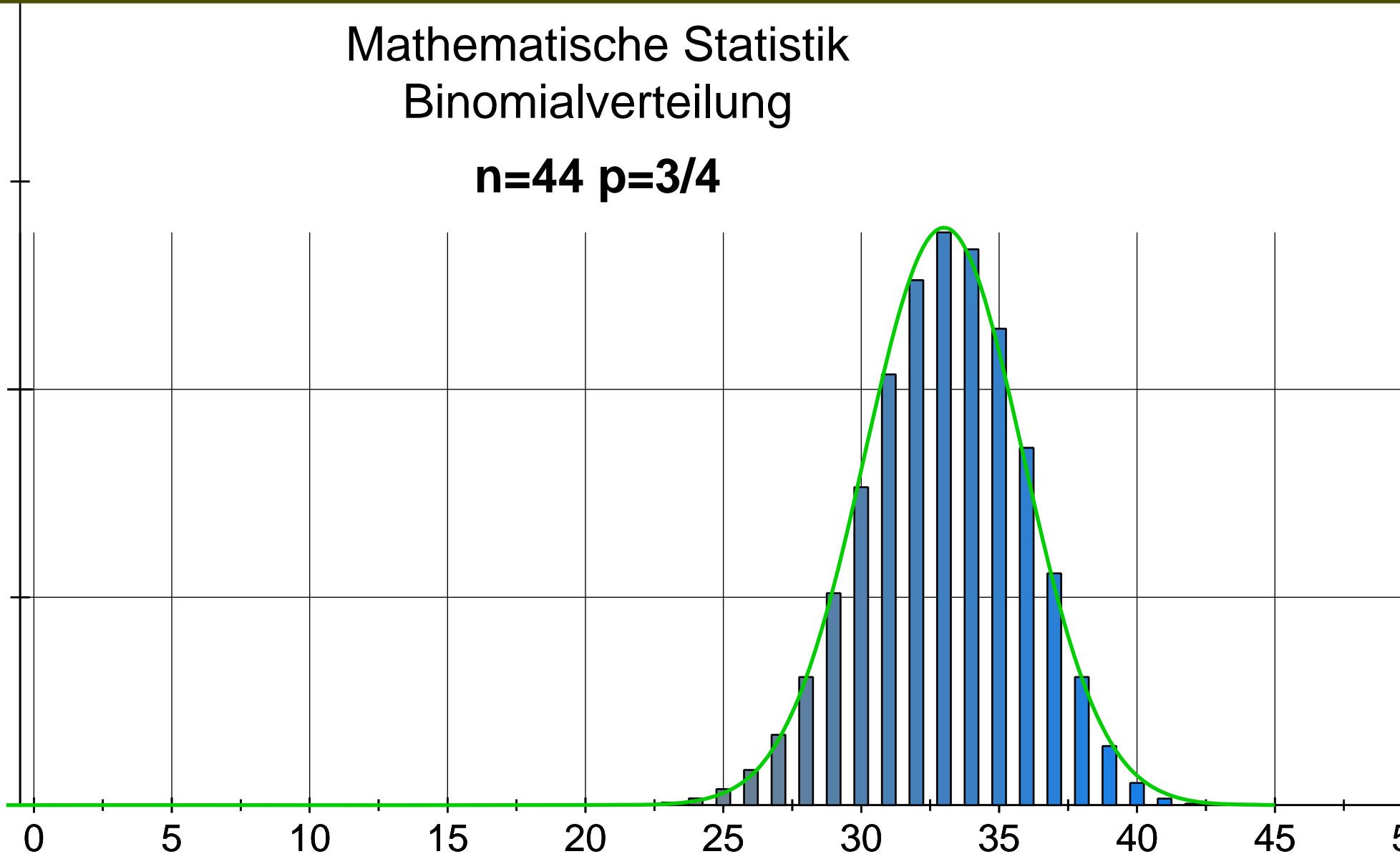
40

45

50

Treffer

$N(33.0, 2.87)$



Mathematische Statistik
Binomialverteilung

n=45 p=3/4

p

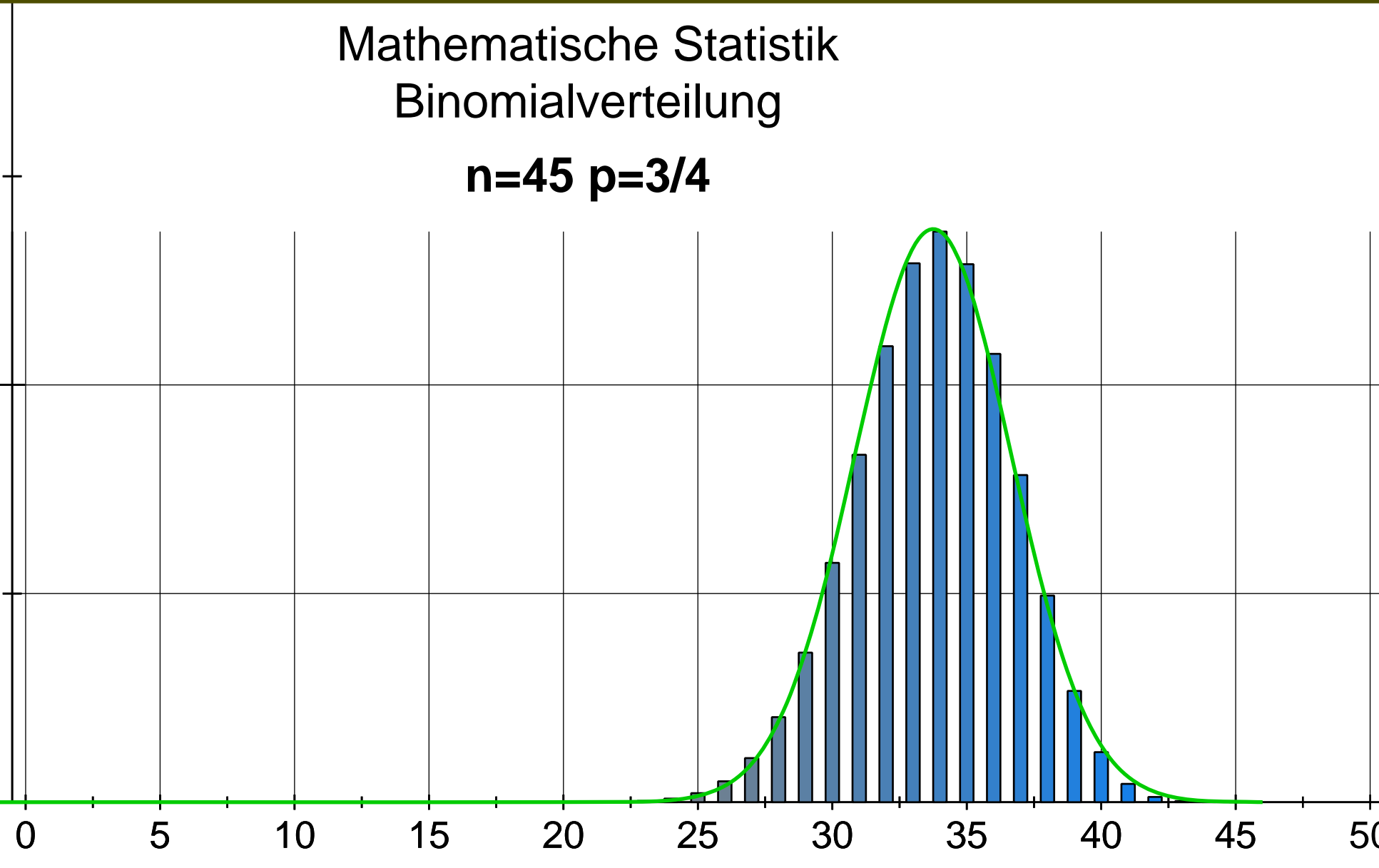
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0 5 10 15 20 25 30 35 40 45 50

Treffer

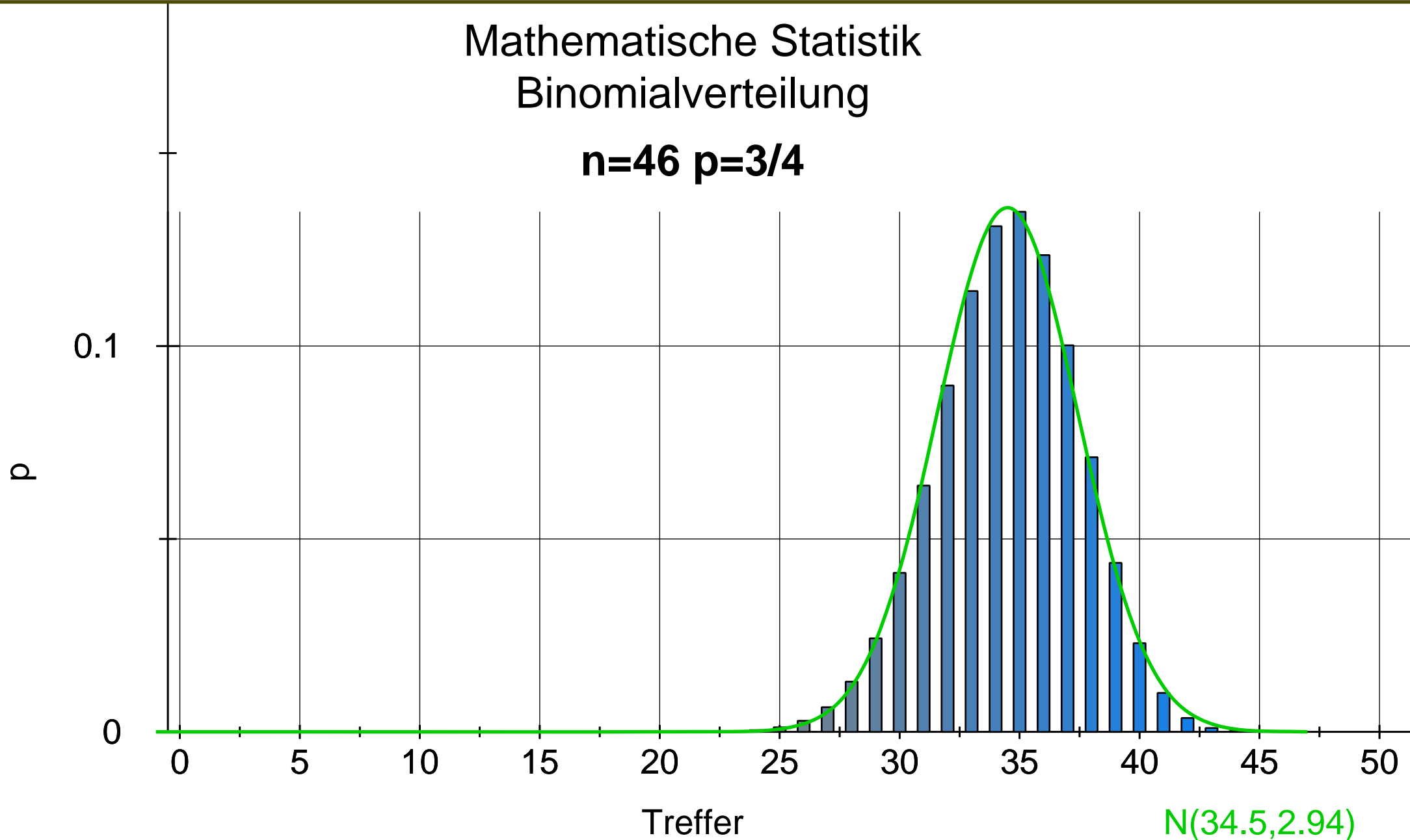
N(33.8, 2.90)



Mathematische Statistik

Binomialverteilung

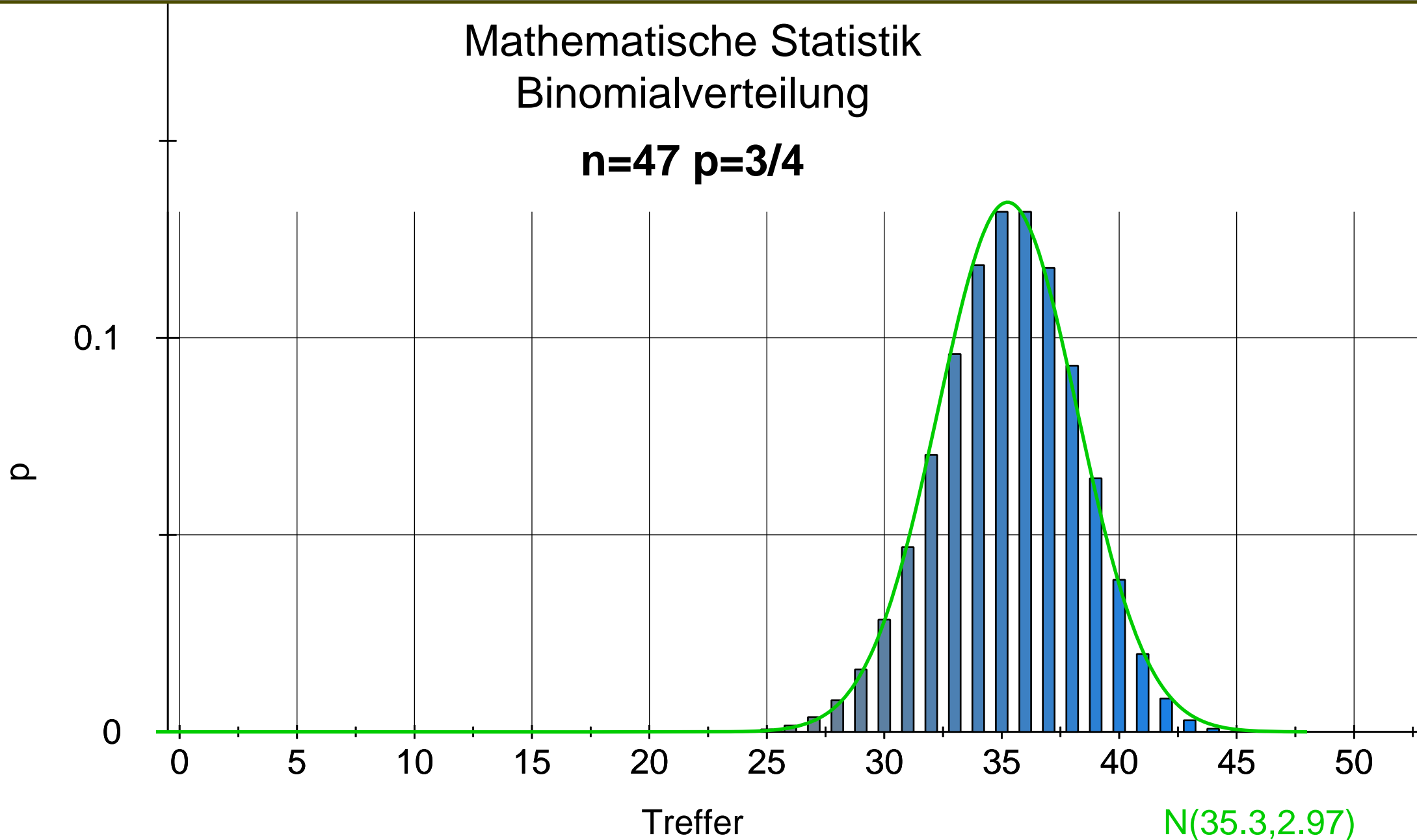
n=46 p=3/4



Mathematische Statistik

Binomialverteilung

$n=47$ $p=3/4$

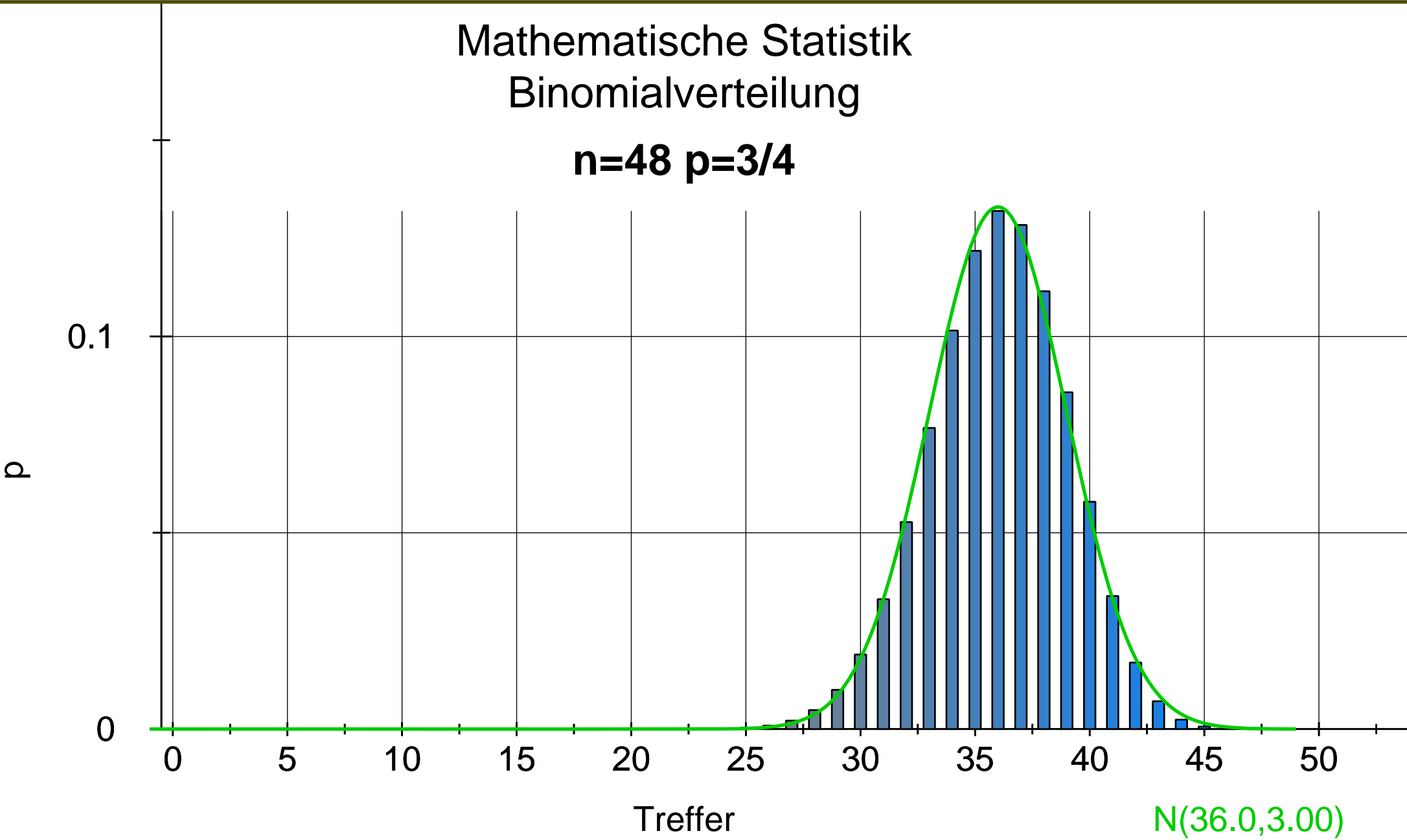


$N(35.3, 2.97)$

Mathematische Statistik

Binomialverteilung

n=48 p=3/4



$N(36.0, 3.00)$

Mathematische Statistik

Binomialverteilung

n=49 p=3/4

p

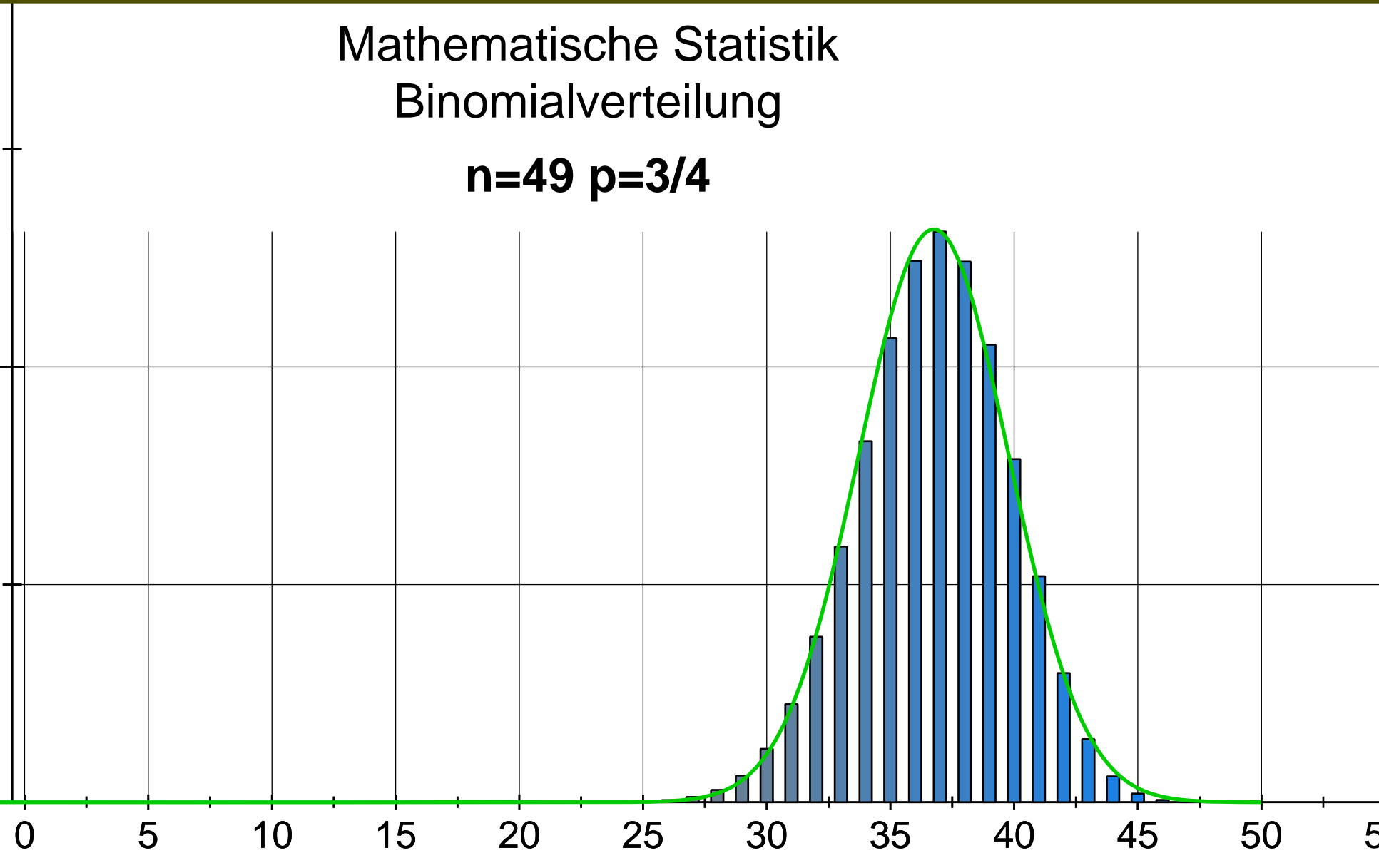
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0

0 5 10 15 20 25 30 35 40 45 50 55

Treffer

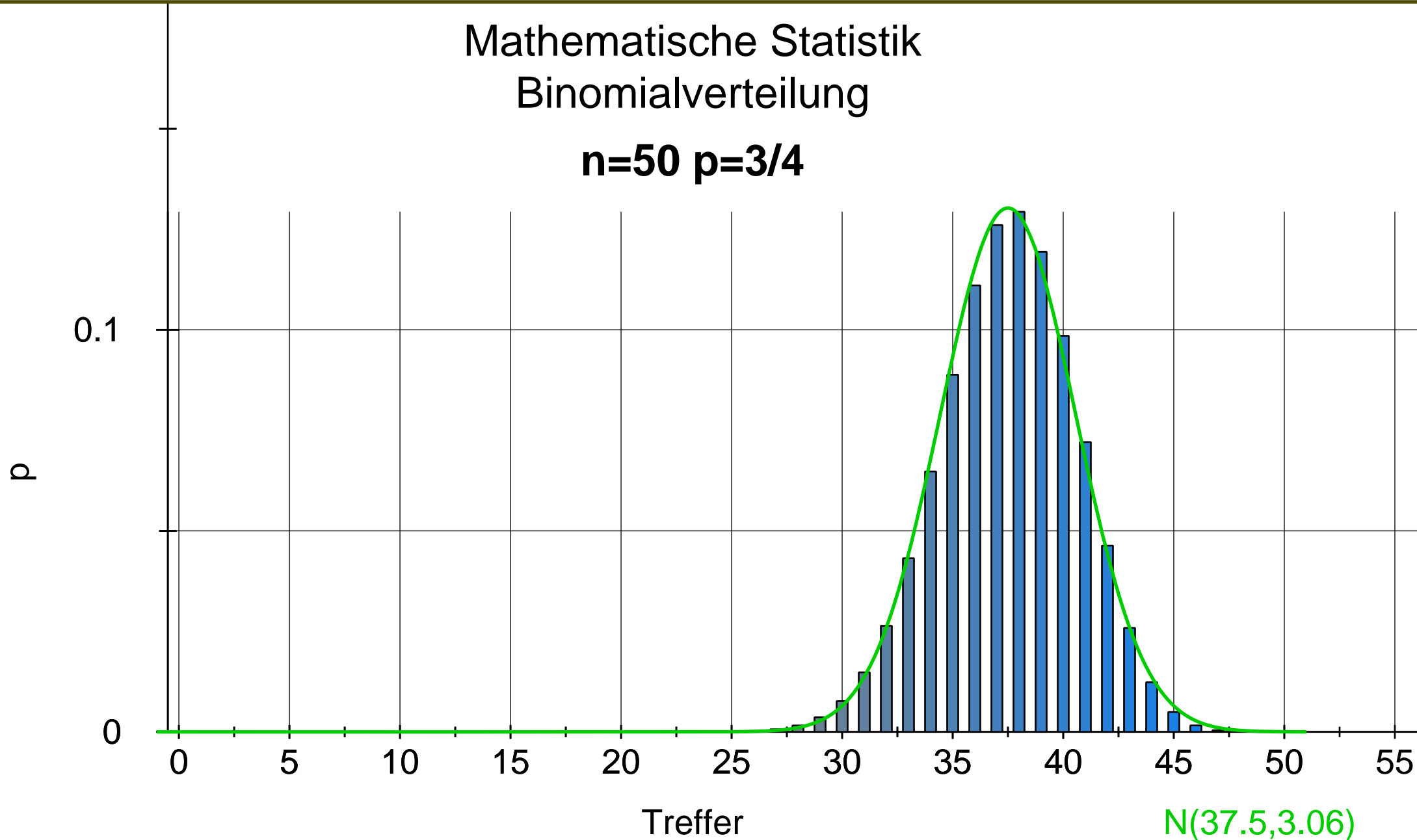
$N(36.8, 3.03)$



Mathematische Statistik

Binomialverteilung

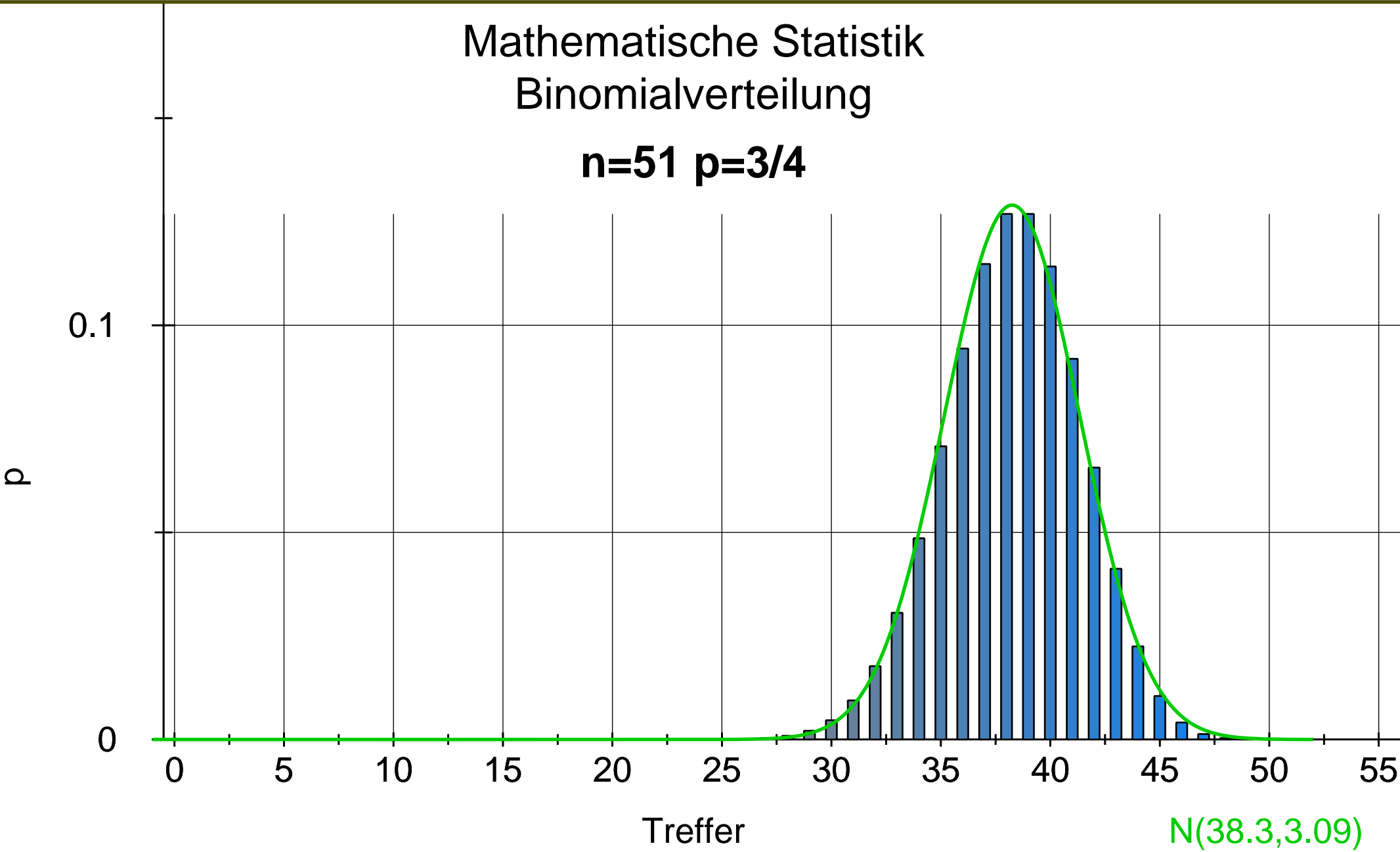
n=50 p=3/4



Mathematische Statistik

Binomialverteilung

n=51 p=3/4

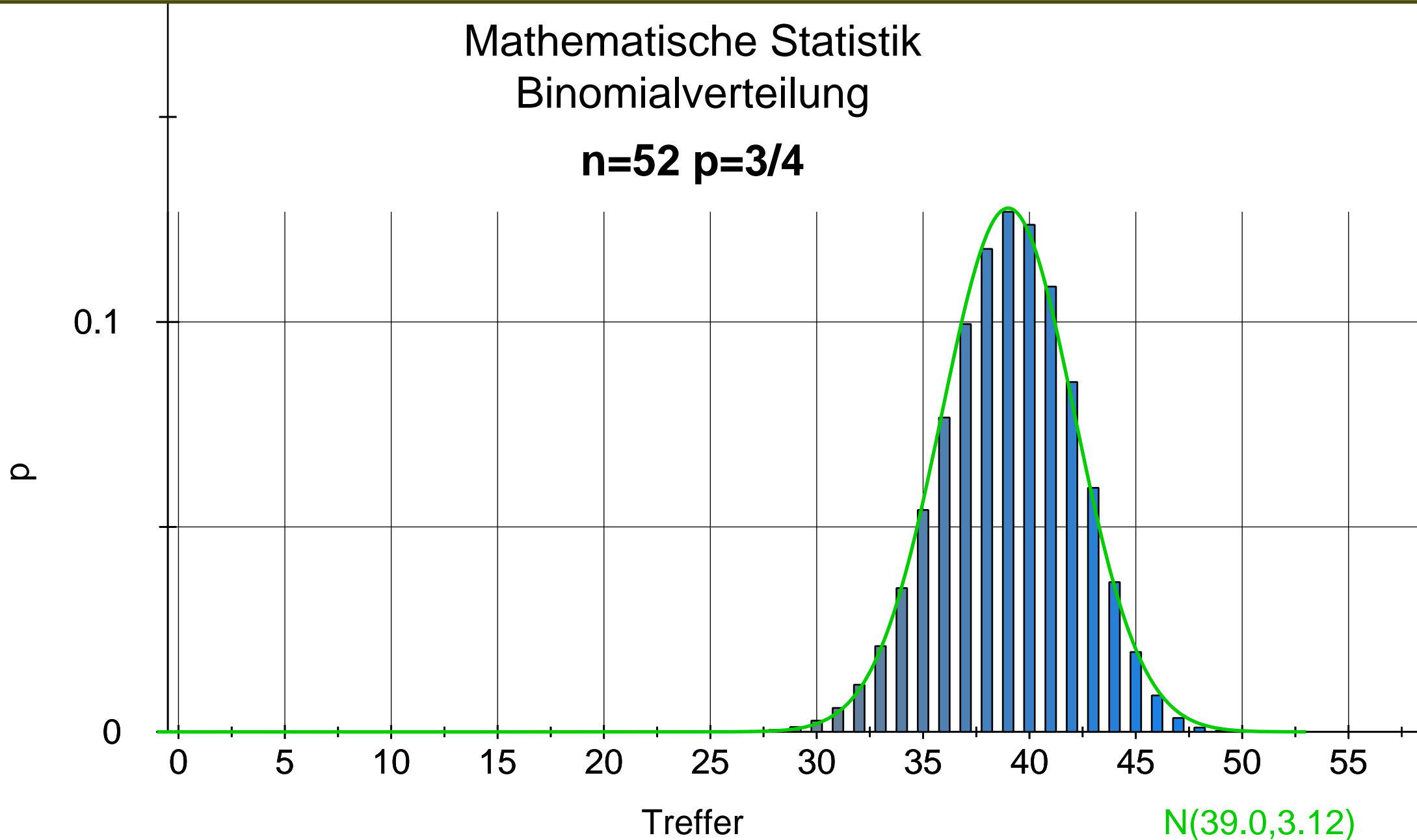


$N(38.3, 3.09)$

Mathematische Statistik

Binomialverteilung

n=52 p=3/4

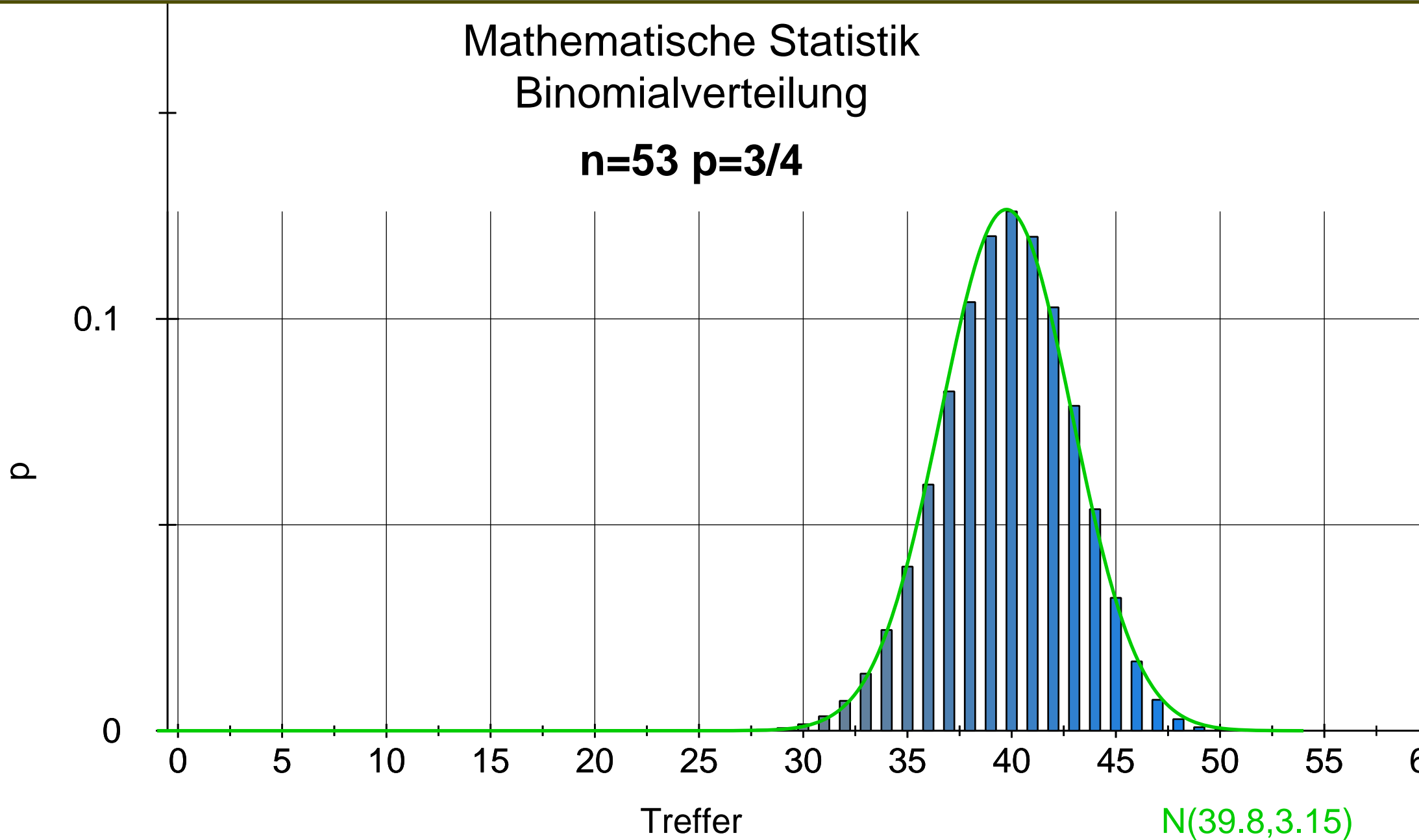


$N(39.0, 3.12)$

Mathematische Statistik

Binomialverteilung

n=53 p=3/4

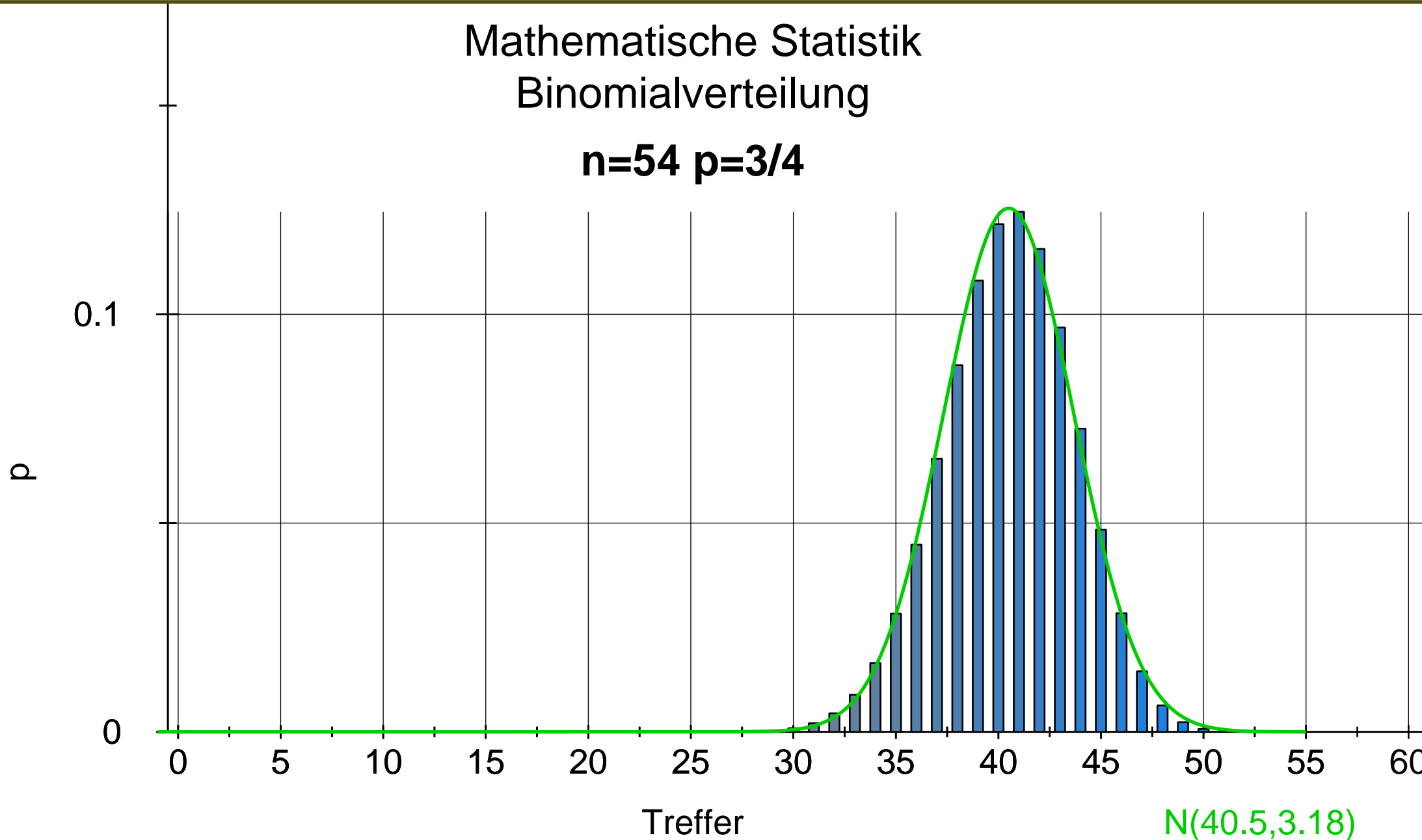


$N(39.8, 3.15)$

Mathematische Statistik

Binomialverteilung

n=54 p=3/4



$N(40.5, 3.18)$

Mathematische Statistik
Binomialverteilung

n=55 p=3/4

p

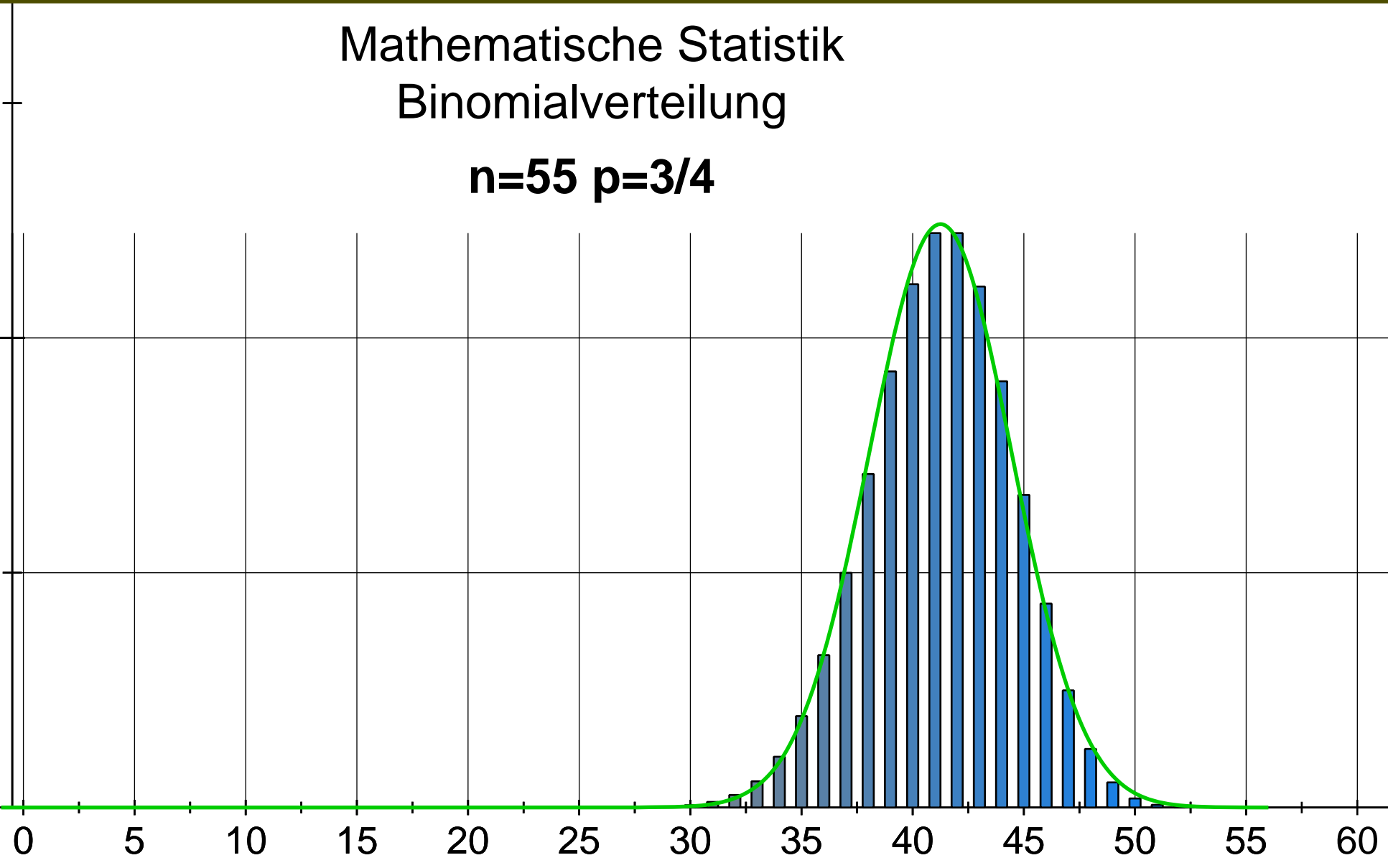
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0

0 5 10 15 20 25 30 35 40 45 50 55 60

Treffer

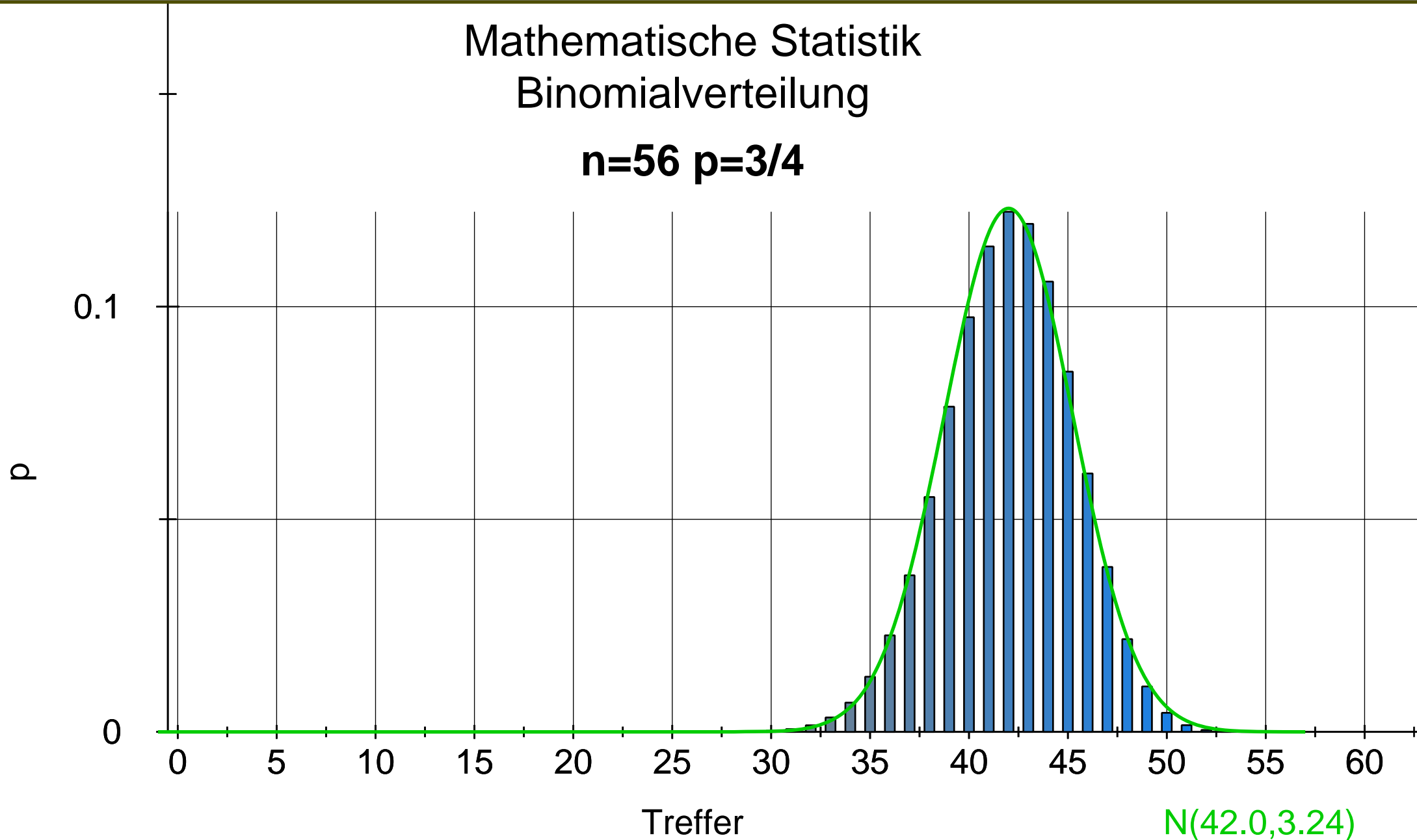
$N(41.3, 3.21)$



Mathematische Statistik

Binomialverteilung

n=56 p=3/4



$N(42.0, 3.24)$

Mathematische Statistik

Binomialverteilung

$n=57$ $p=3/4$

p

0.1

0

0

5

10

15

20

25

30

35

40

45

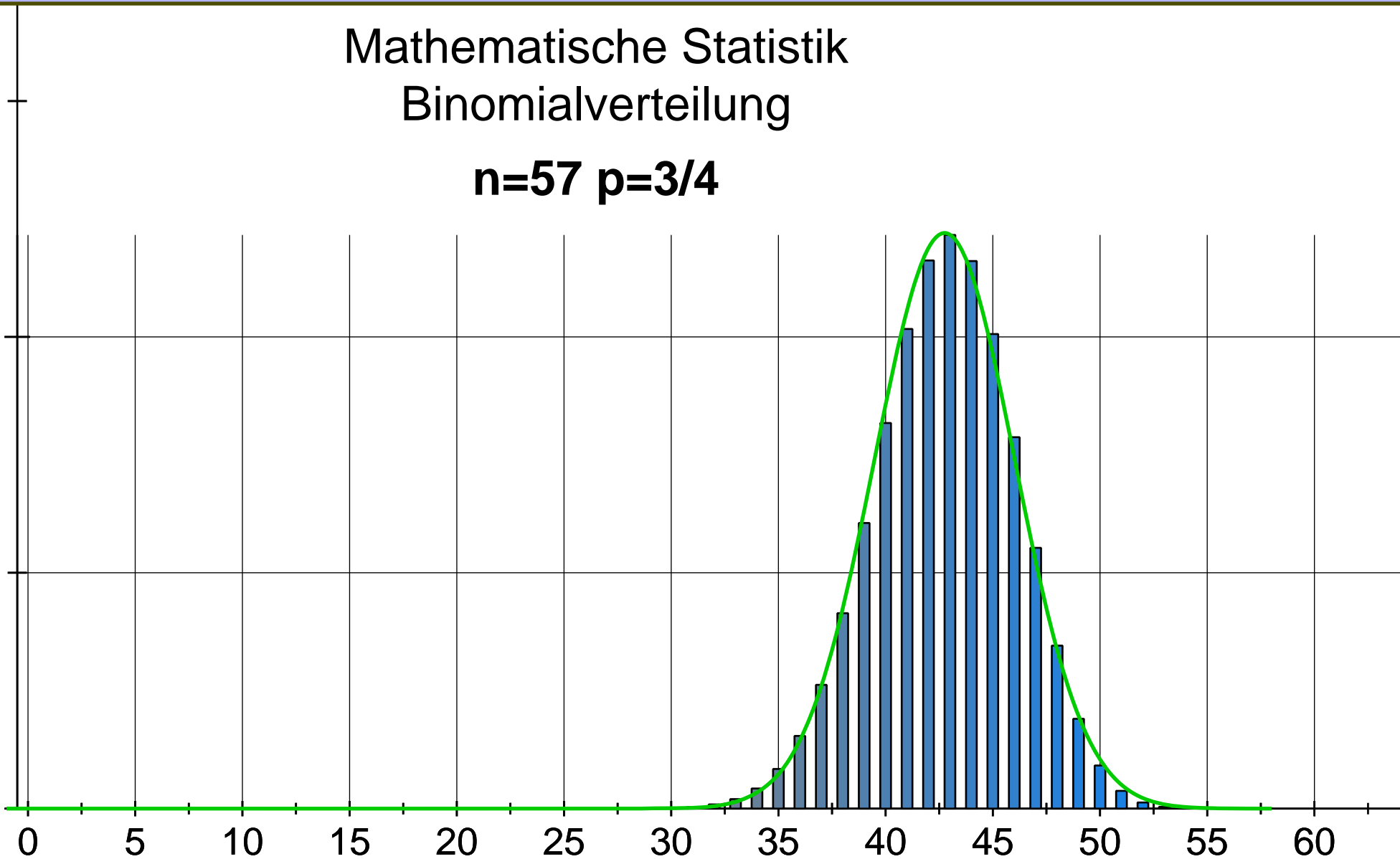
50

55

60

Treffer

$N(42.8, 3.27)$



Mathematische Statistik

Binomialverteilung

n=58 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

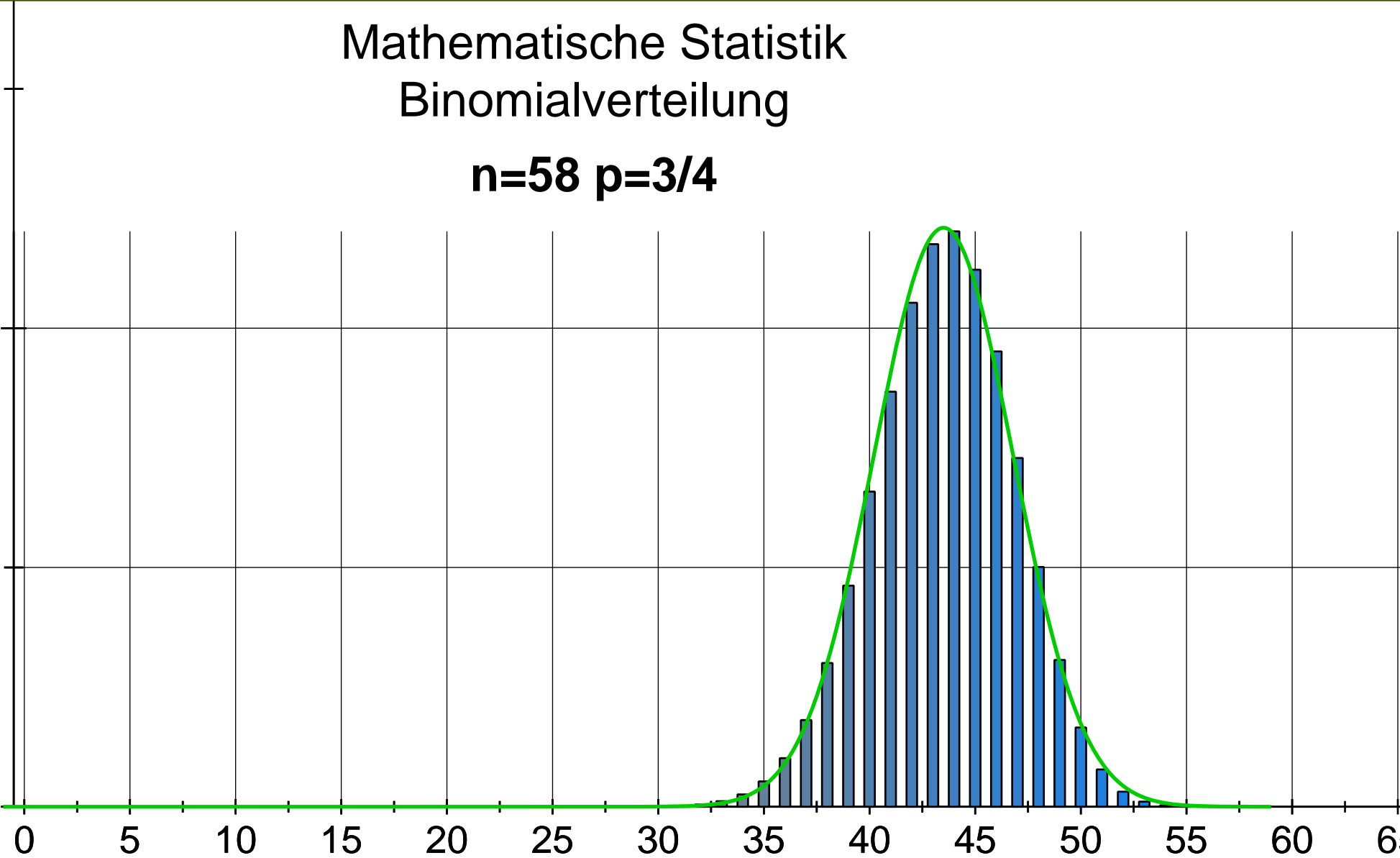
55

60

6

Treffer

$N(43.5, 3.30)$



Mathematische Statistik

Binomialverteilung

n=59 p=3/4

p

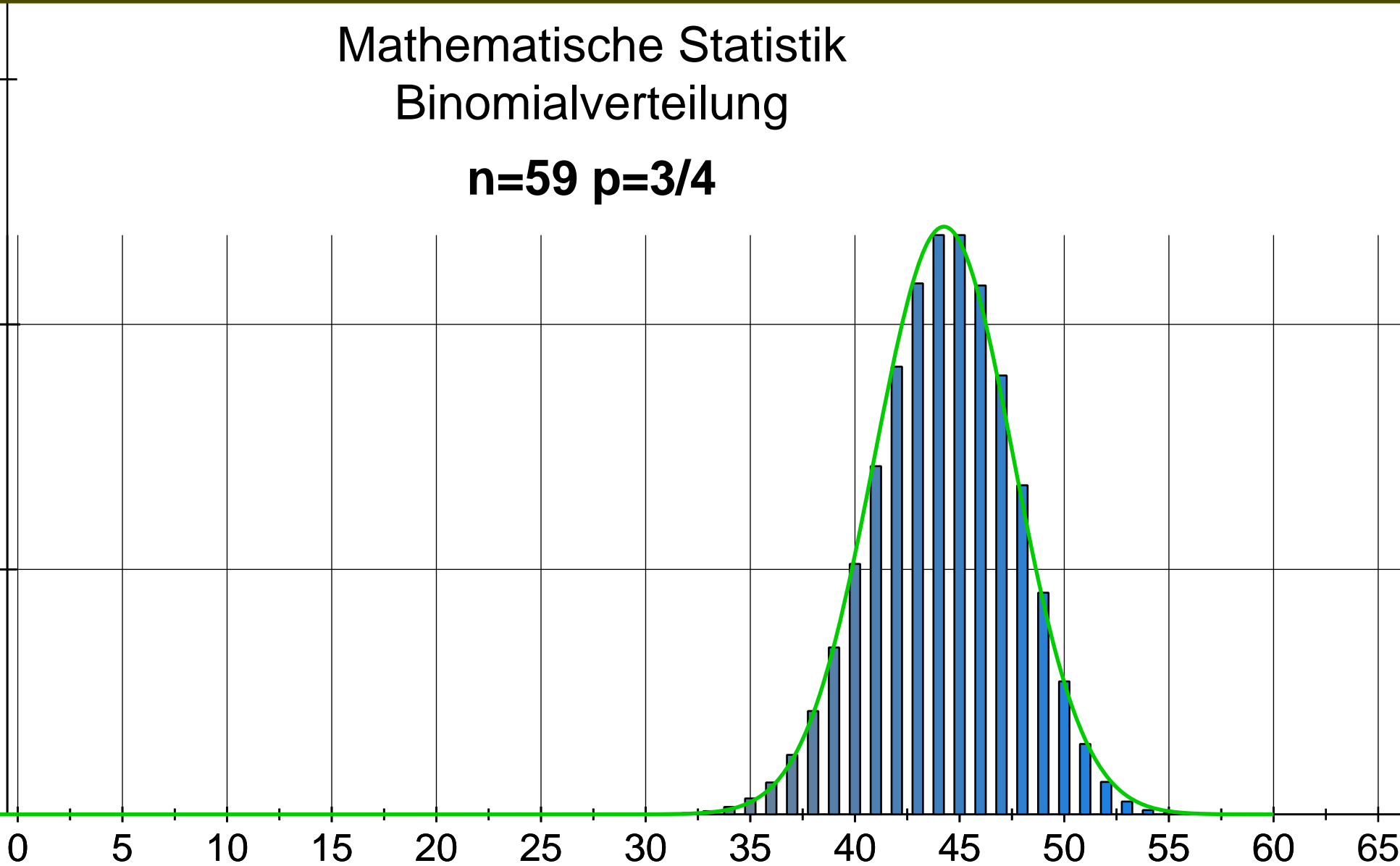
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65

Treffer

$N(44.3, 3.33)$



Mathematische Statistik

Binomialverteilung

n=60 p=3/4

p

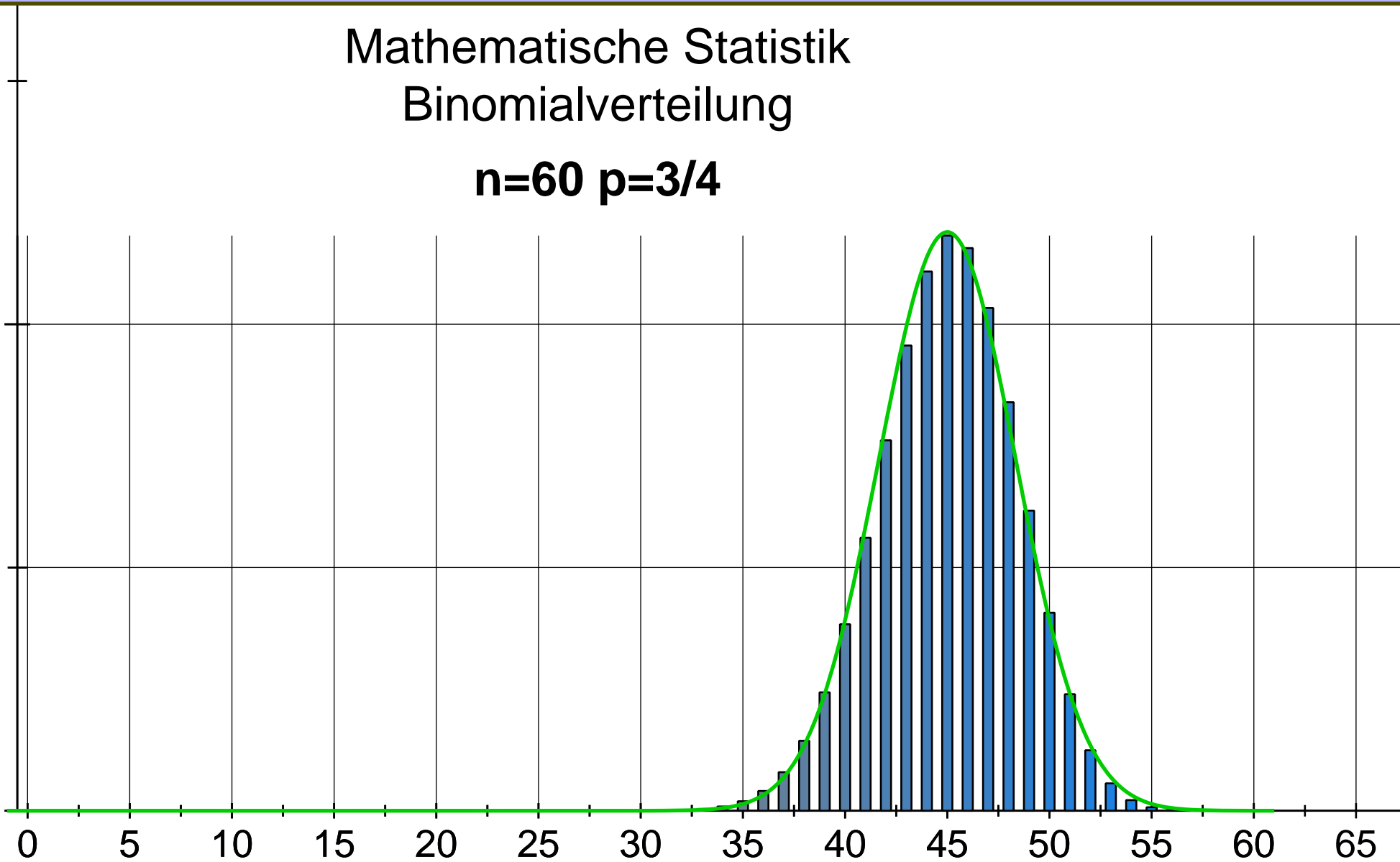
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65

Treffer

$N(45.0, 3.35)$



Mathematische Statistik

Binomialverteilung

n=61 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

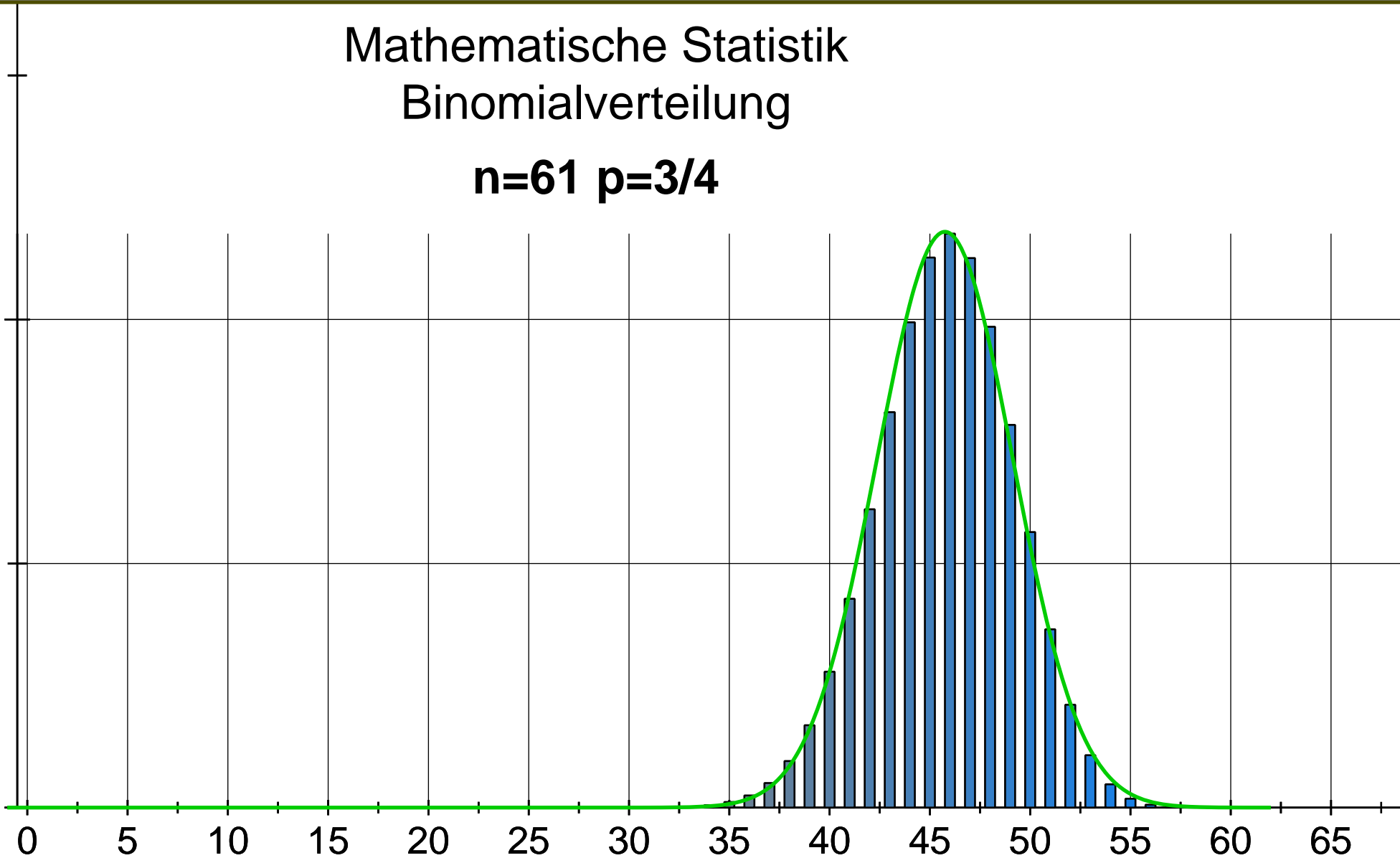
55

60

65

Treffer

$N(45.8, 3.38)$



Mathematische Statistik
Binomialverteilung

n=62 p=3/4

p

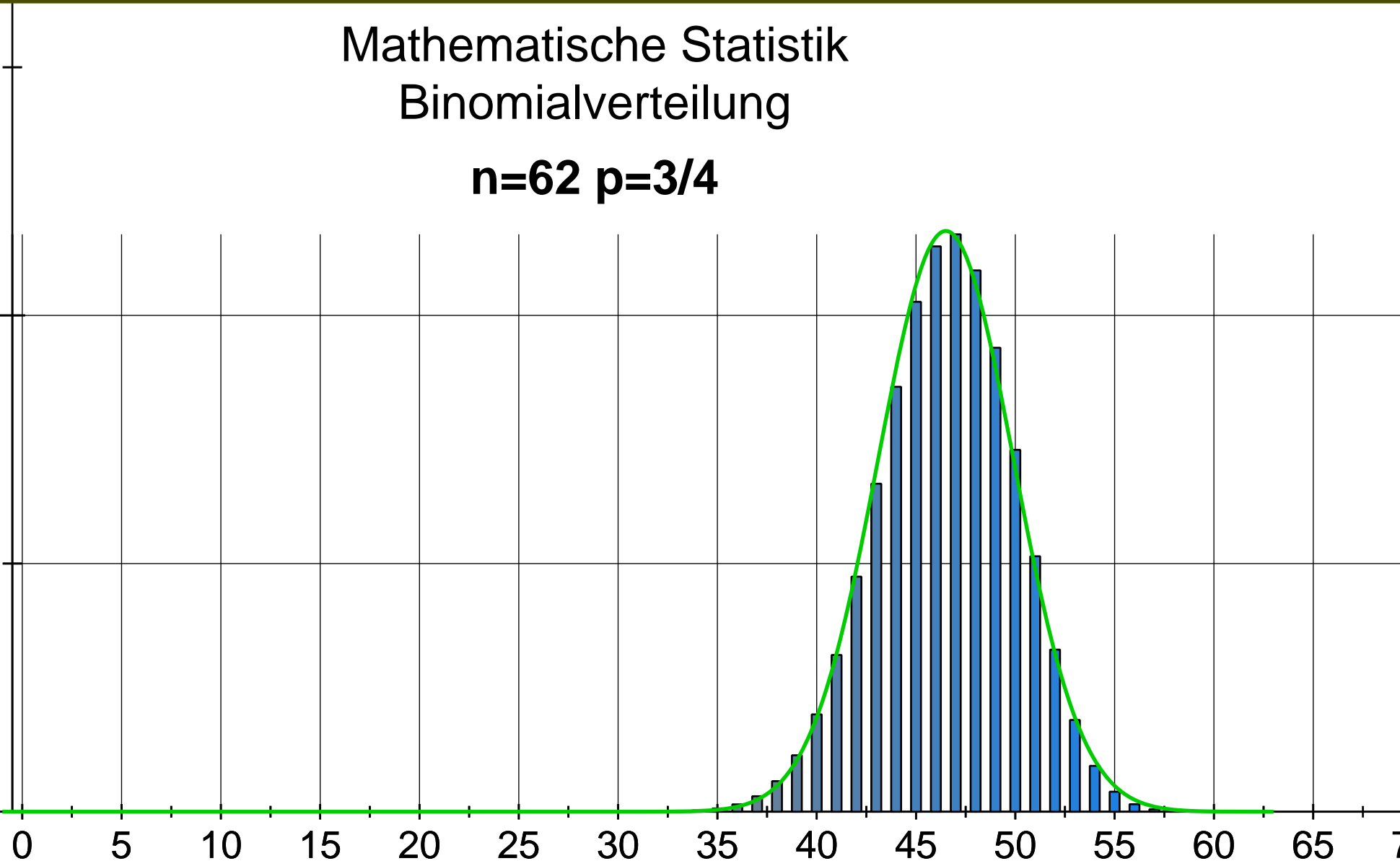
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Treffer

$N(46.5, 3.41)$



Mathematische Statistik
Binomialverteilung

n=63 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

55

60

65

70

Treffer

$N(47.3, 3.44)$

Mathematische Statistik

Binomialverteilung

n=64 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

55

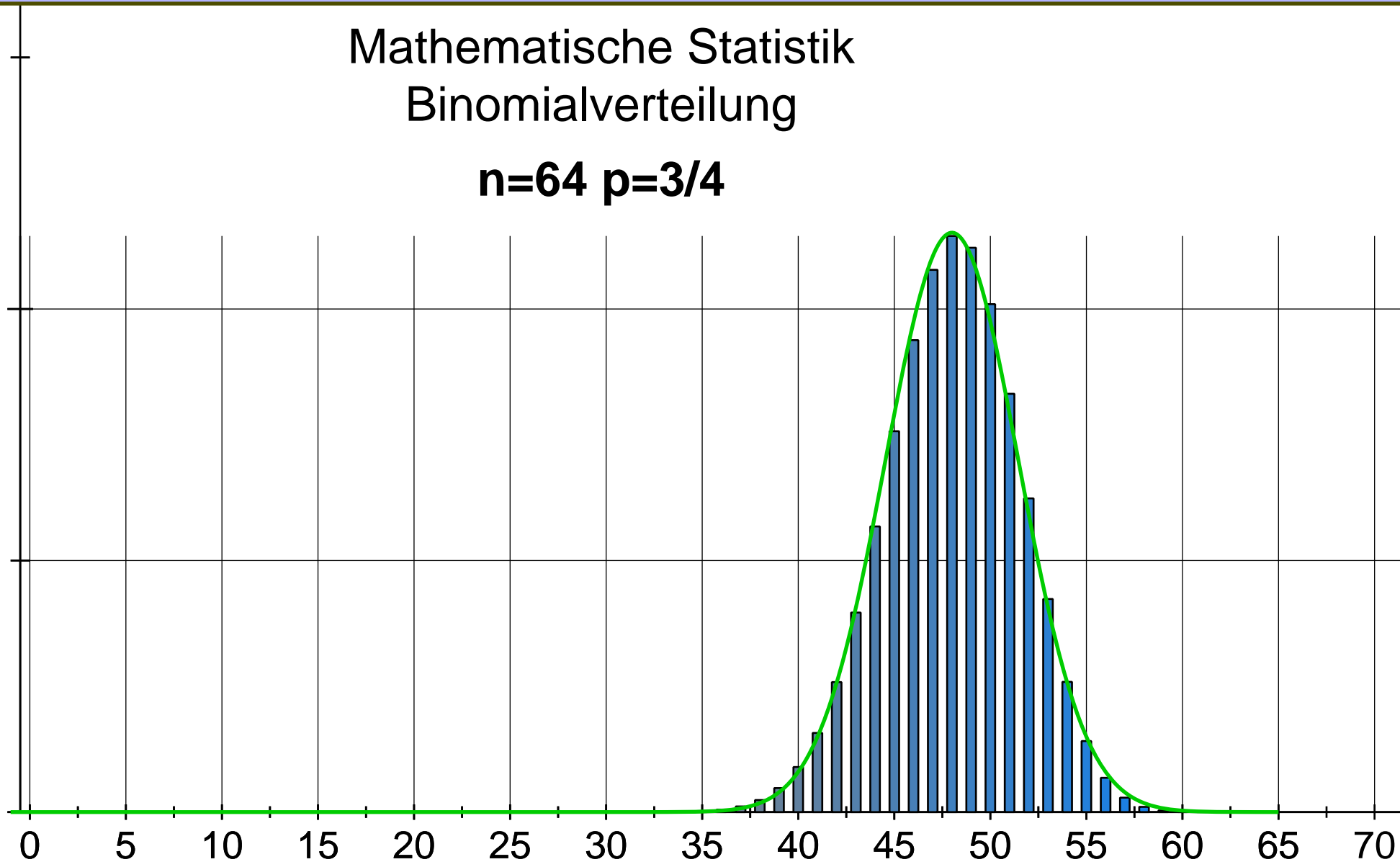
60

65

70

Treffer

$N(48.0, 3.46)$



Mathematische Statistik

Binomialverteilung

$n=65$ $p=3/4$

p

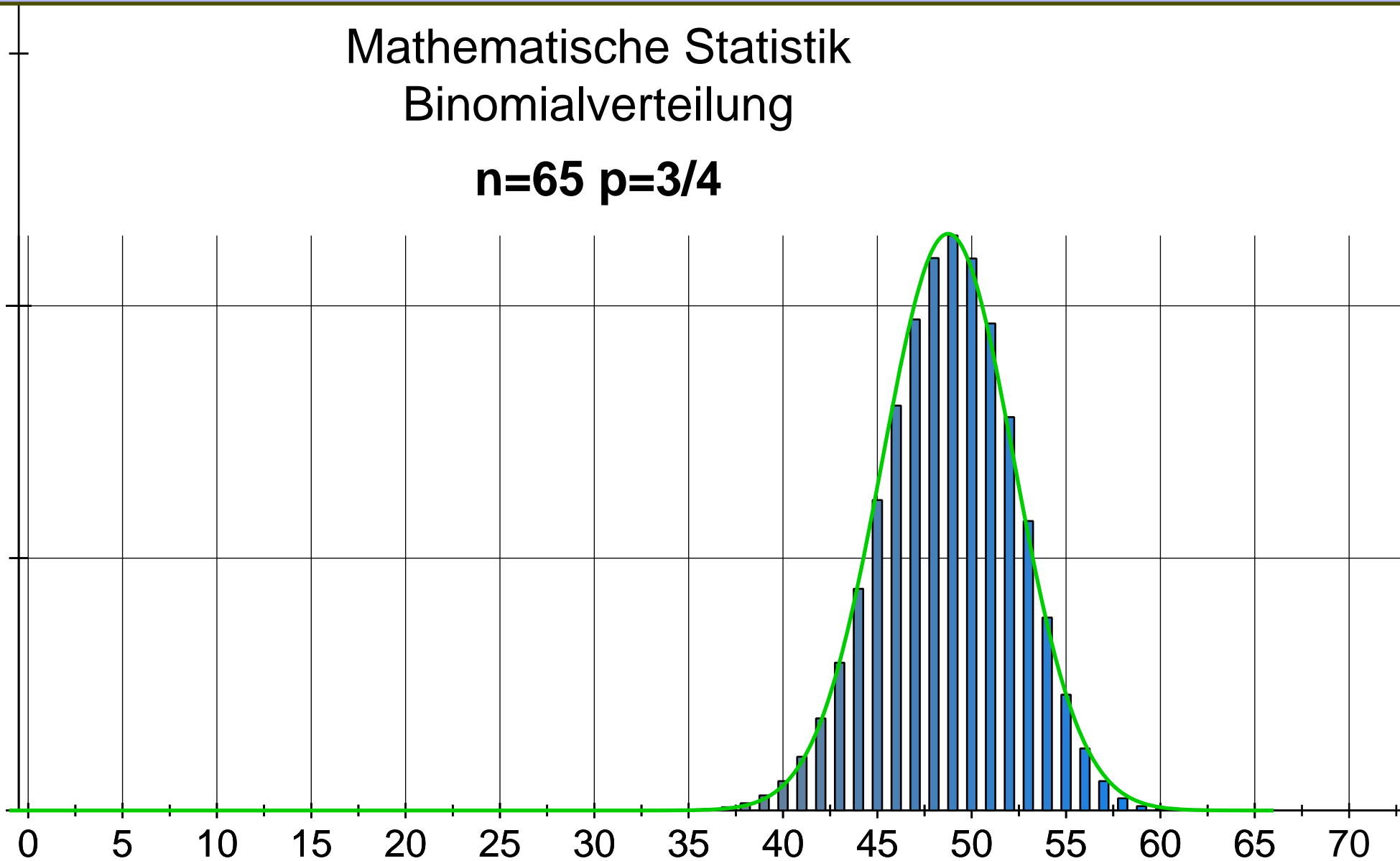
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Treffer

$N(48.8, 3.49)$



Mathematische Statistik

Binomialverteilung

n=66 p=3/4

p

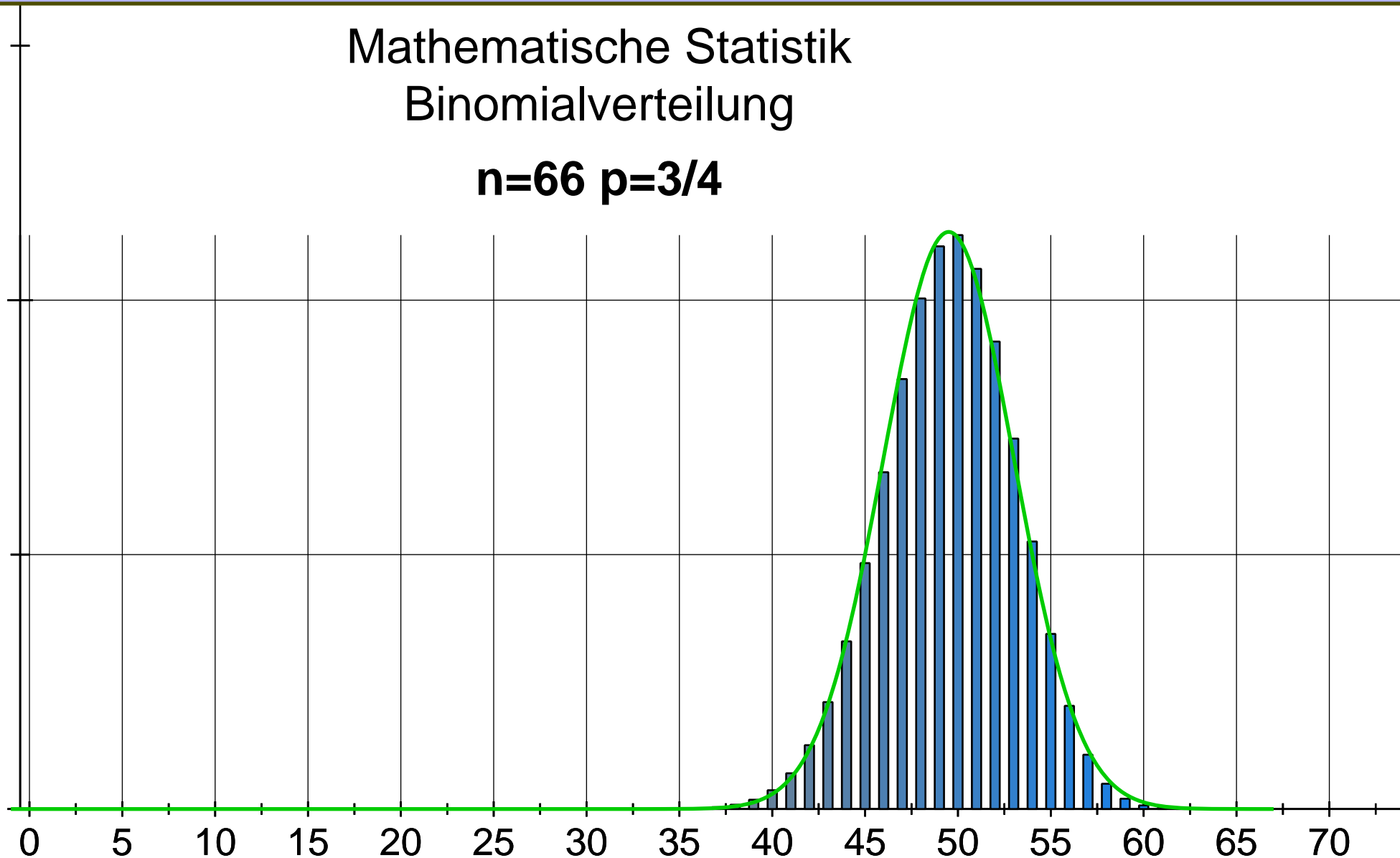
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

Treffer

$N(49.5, 3.52)$



Mathematische Statistik
Binomialverteilung

n=67 p=3/4

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

55

60

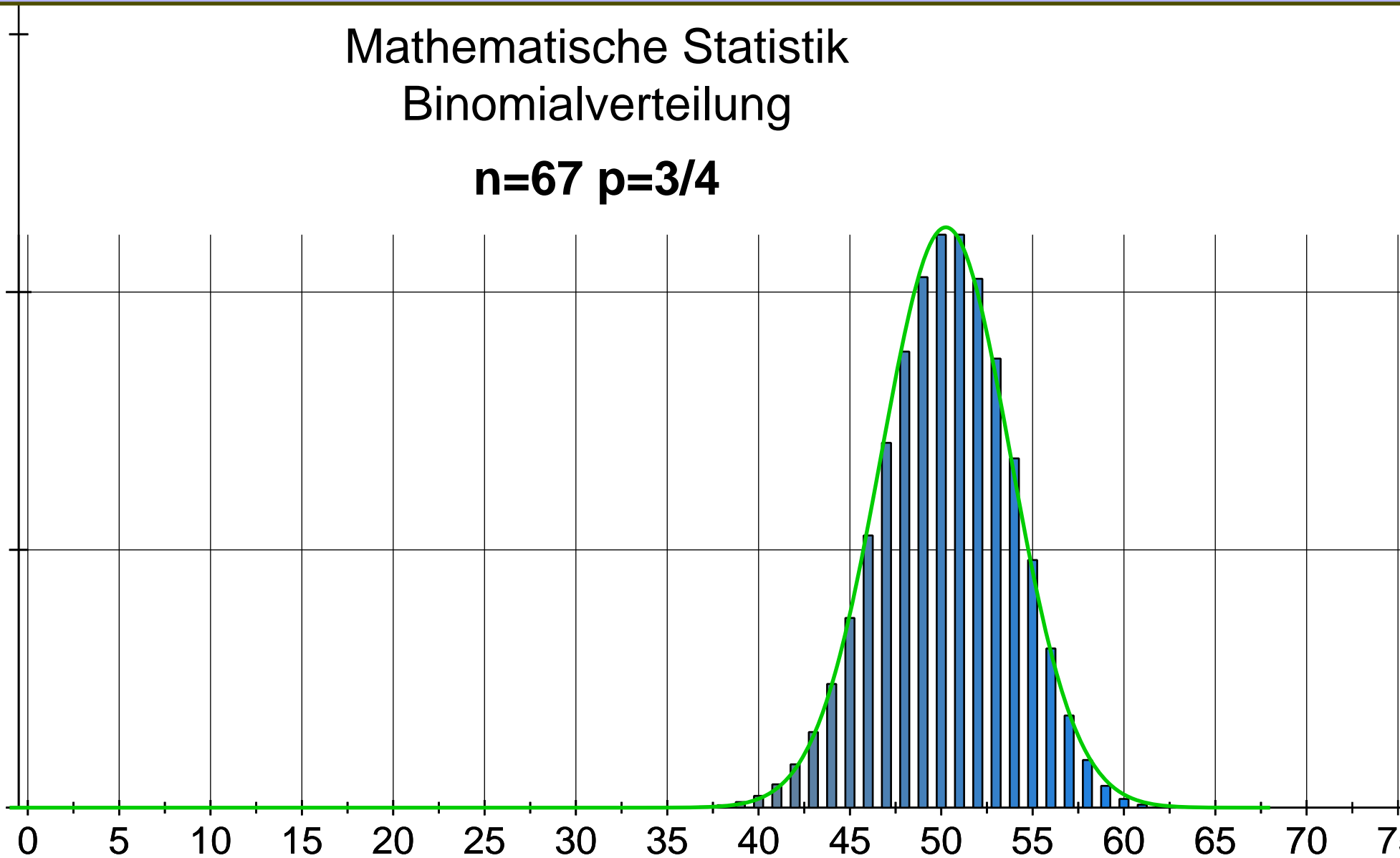
65

70

75

Treffer

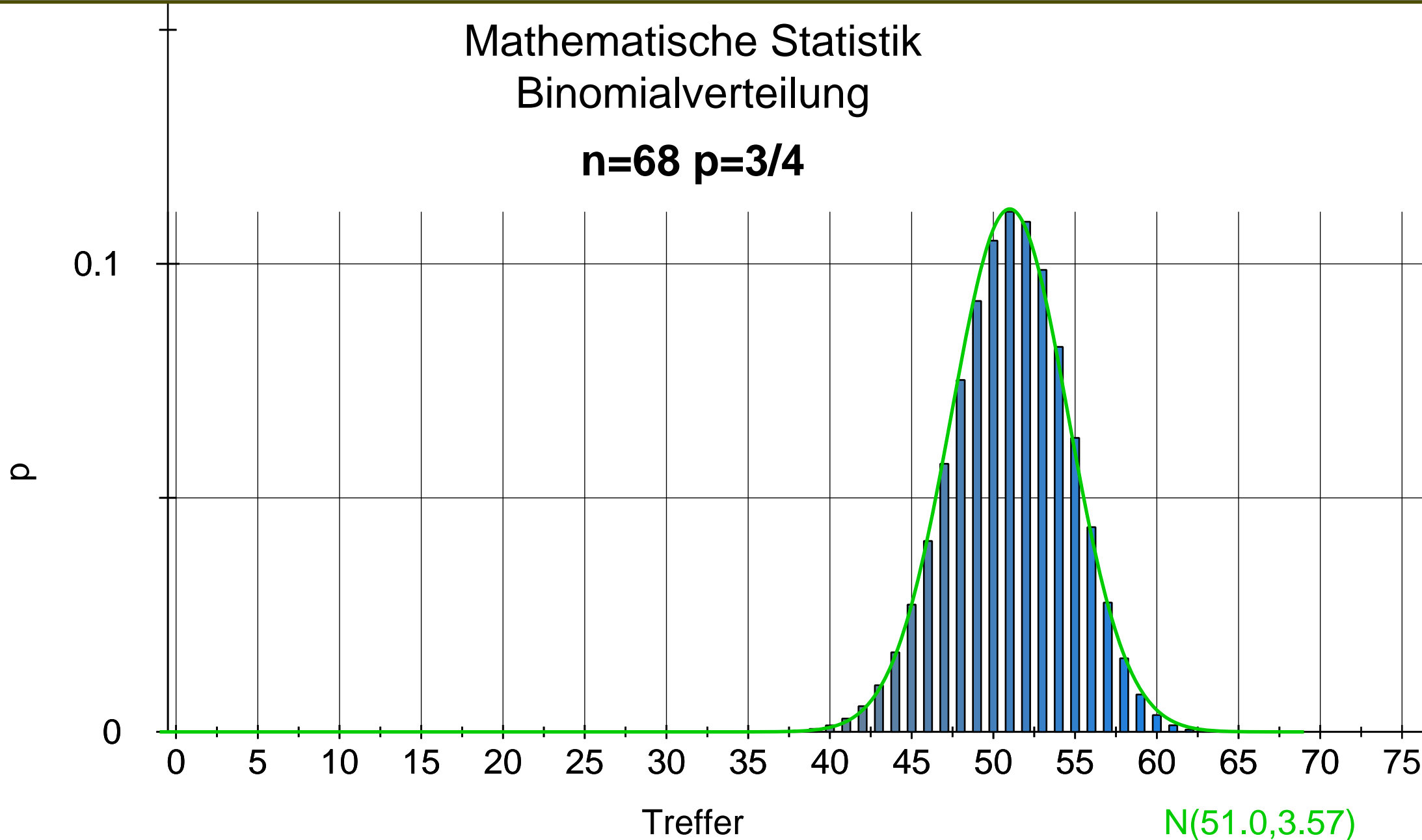
$N(50.3, 3.54)$



Mathematische Statistik

Binomialverteilung

n=68 p=3/4



Mathematische Statistik

Binomialverteilung

n=69 p=3/4

p

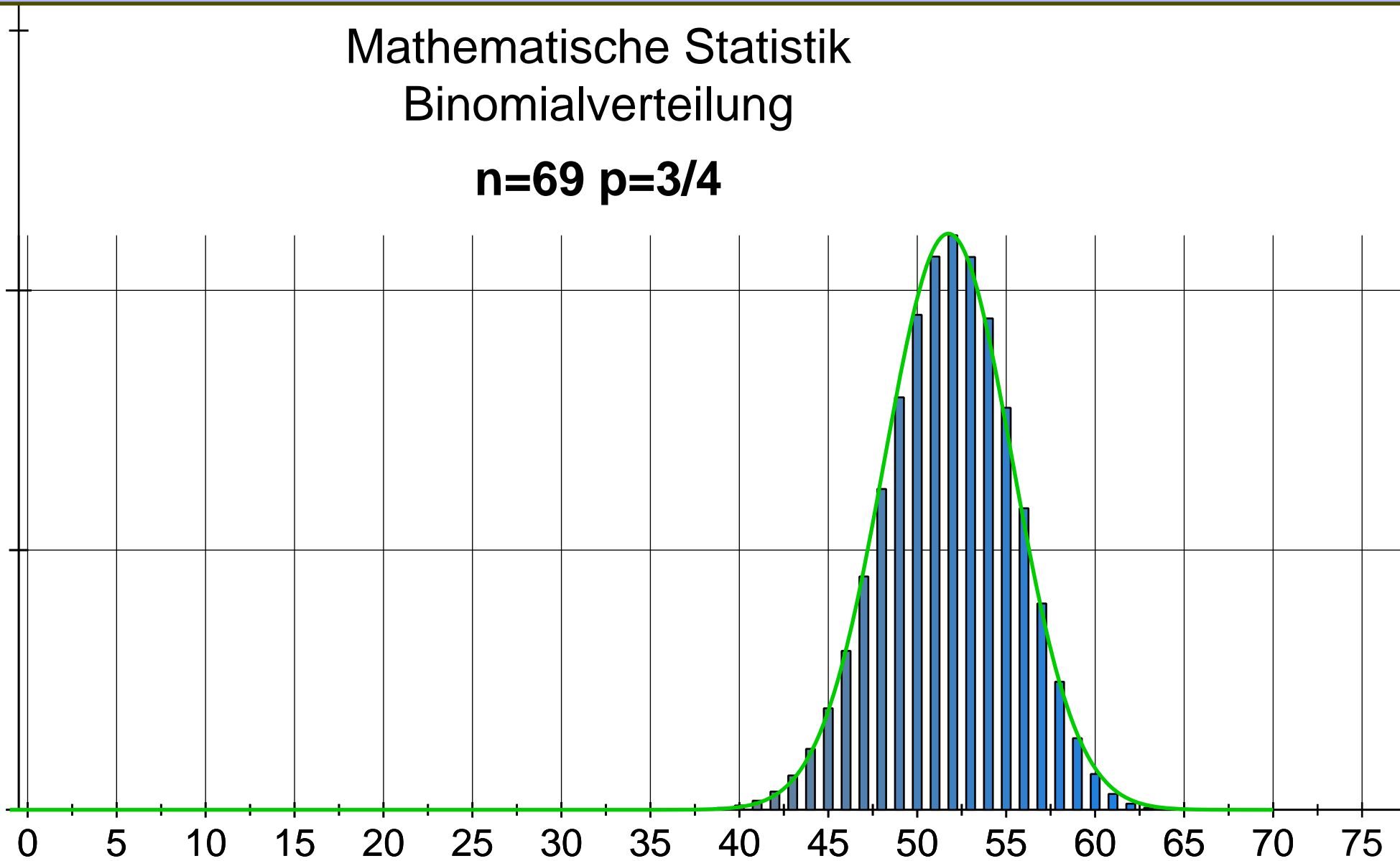
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Treffer

$N(51.8, 3.60)$



Mathematische Statistik

Binomialverteilung

$n=70$ $p=3/4$

p

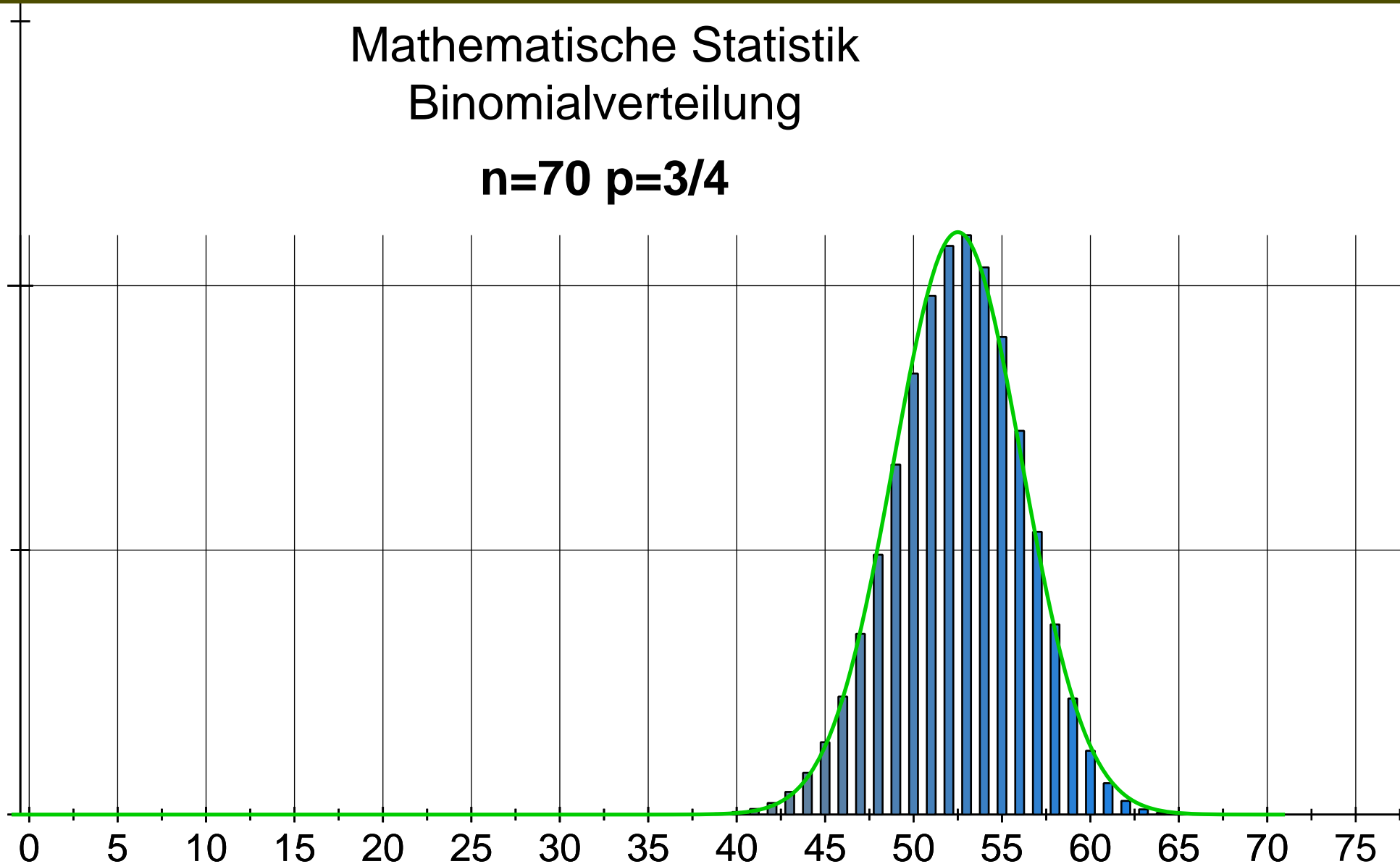
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

Treffer

$N(52.5, 3.62)$



Mathematische Statistik

Binomialverteilung

$n=71$ $p=3/4$

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

55

60

65

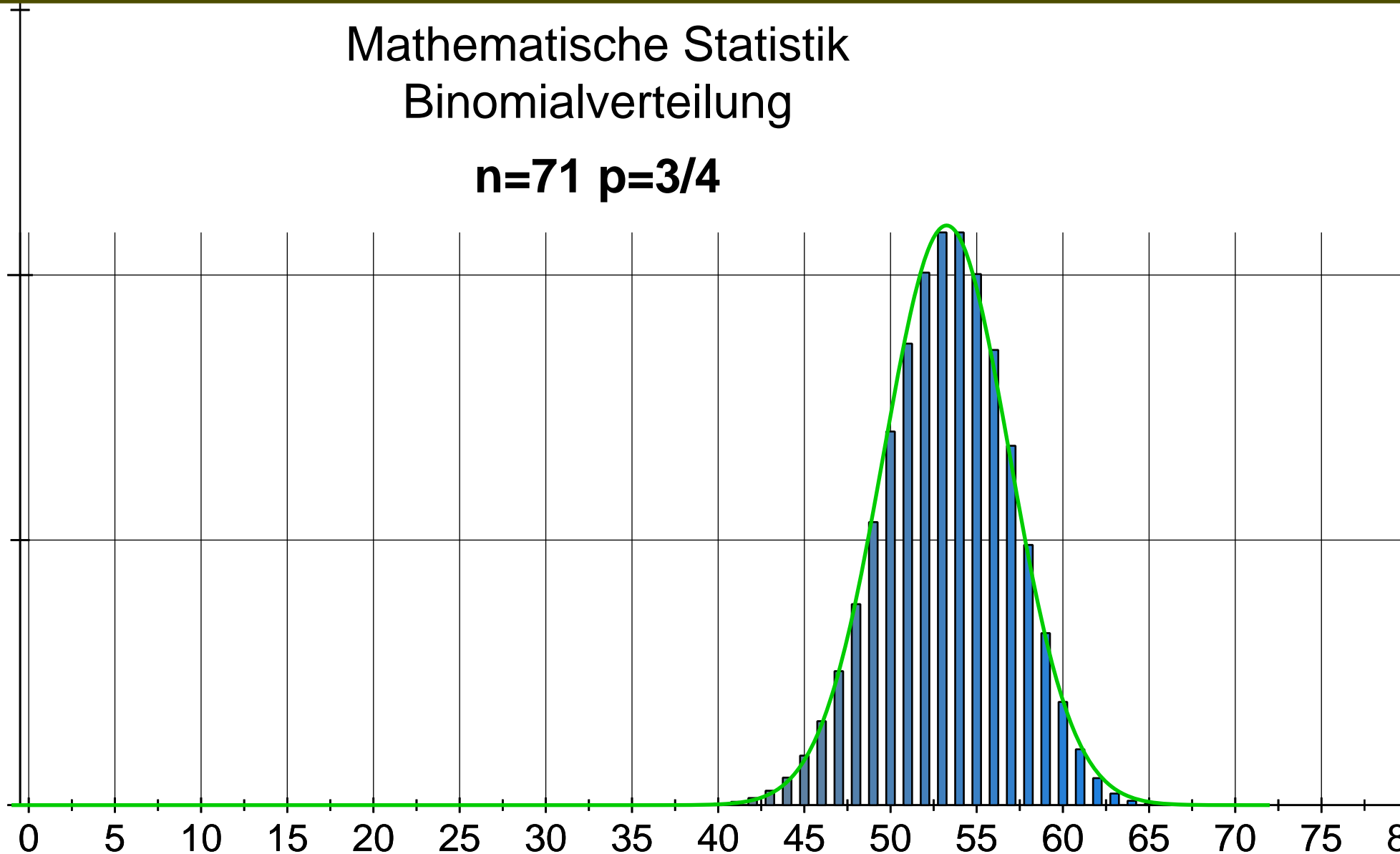
70

75

80

Treffer

$N(53.3, 3.65)$



Mathematische Statistik

Binomialverteilung

$n=72$ $p=3/4$

p

0.1

0

0

5

10

15

20

25

30

35

40

45

50

55

60

65

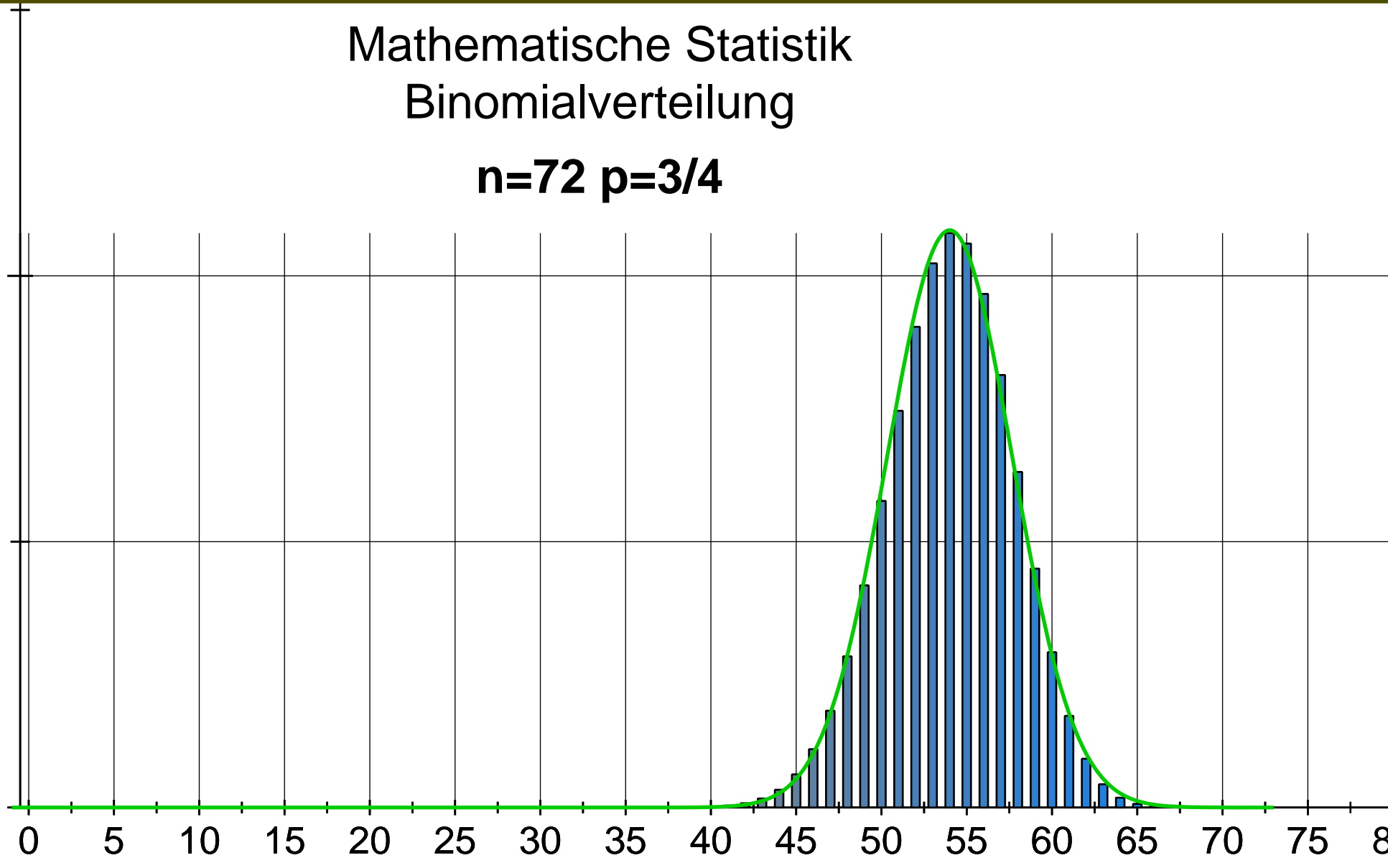
70

75

80

Treffer

$N(54.0, 3.67)$



Mathematische Statistik

Binomialverteilung

$n=73$ $p=3/4$

p

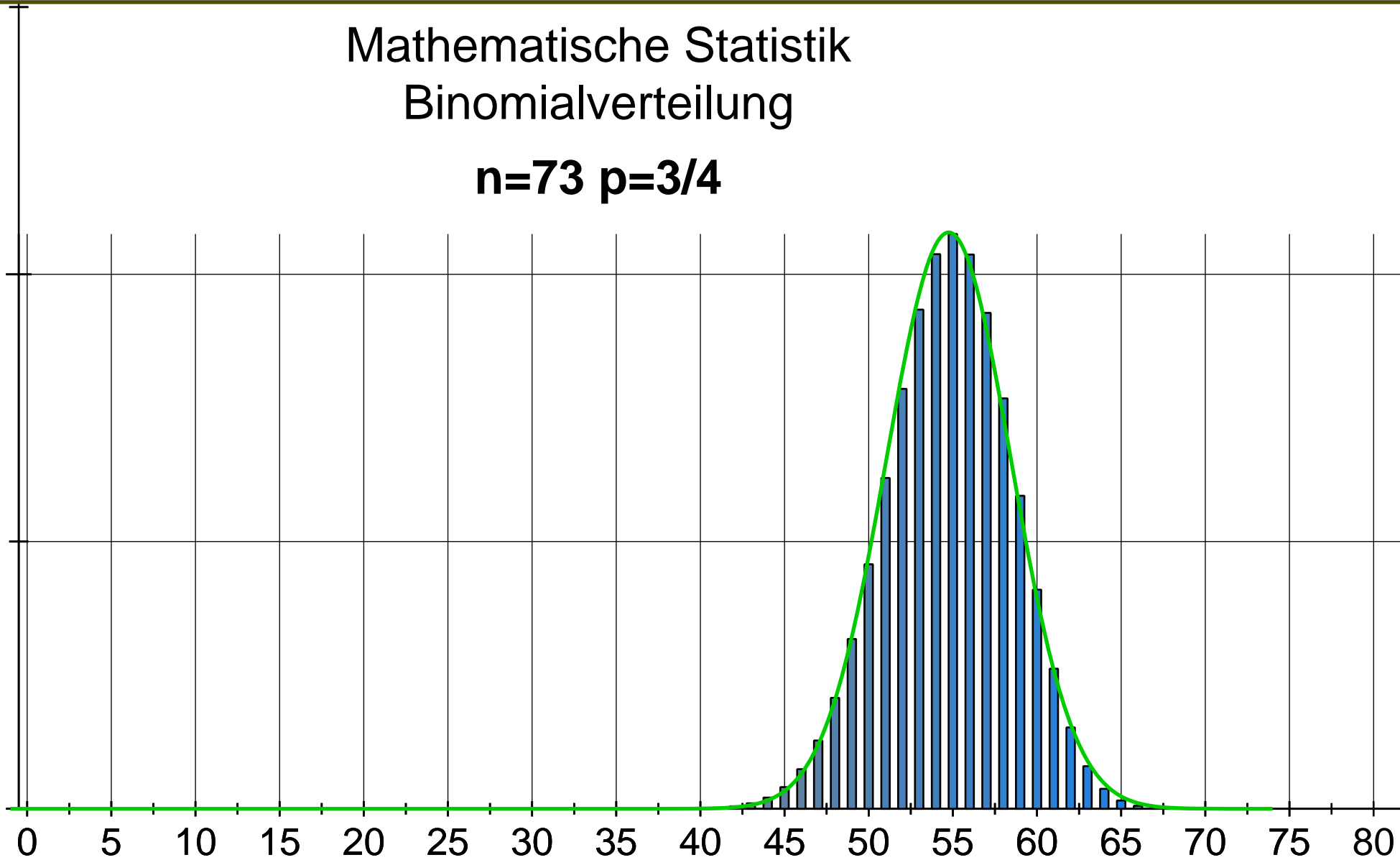
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80

Treffer

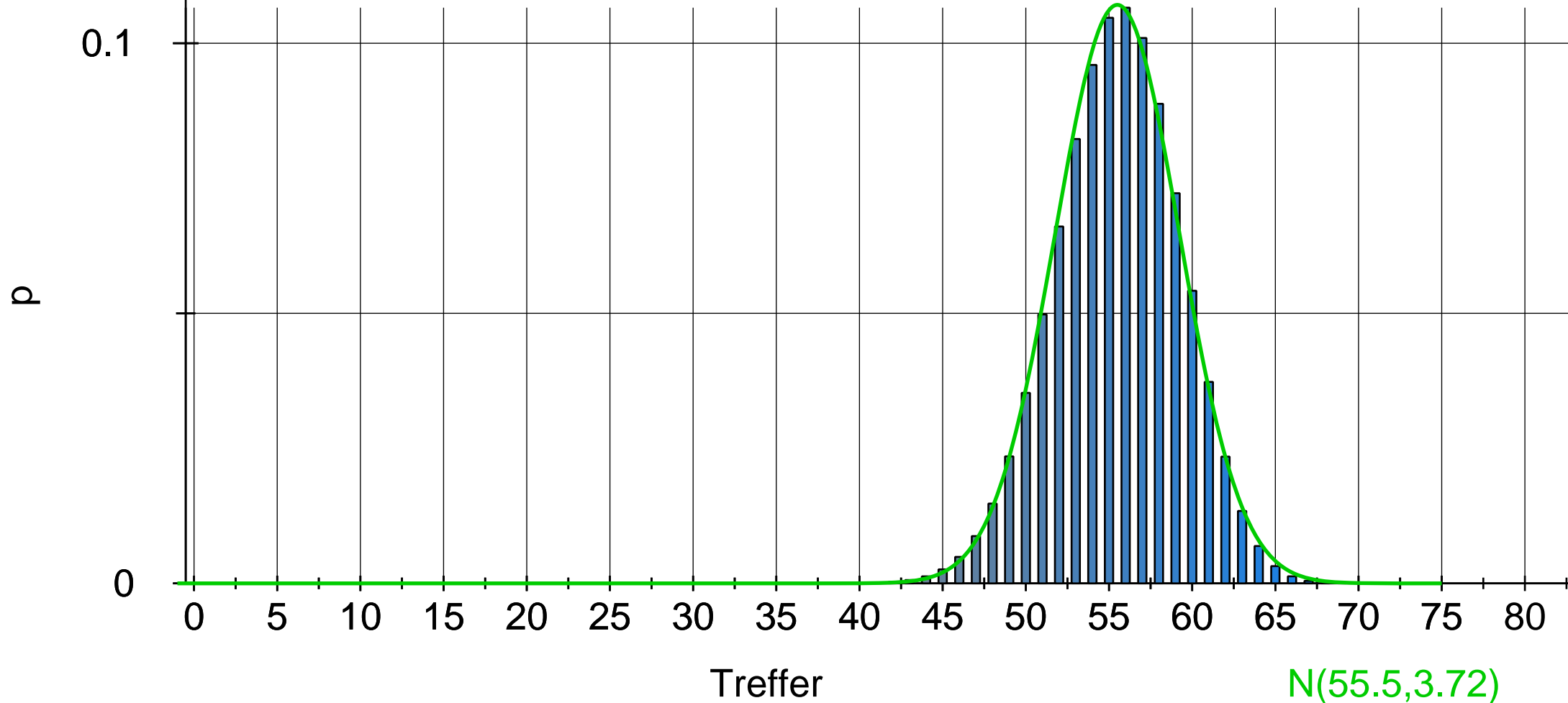
$N(54.8, 3.70)$



Mathematische Statistik

Binomialverteilung

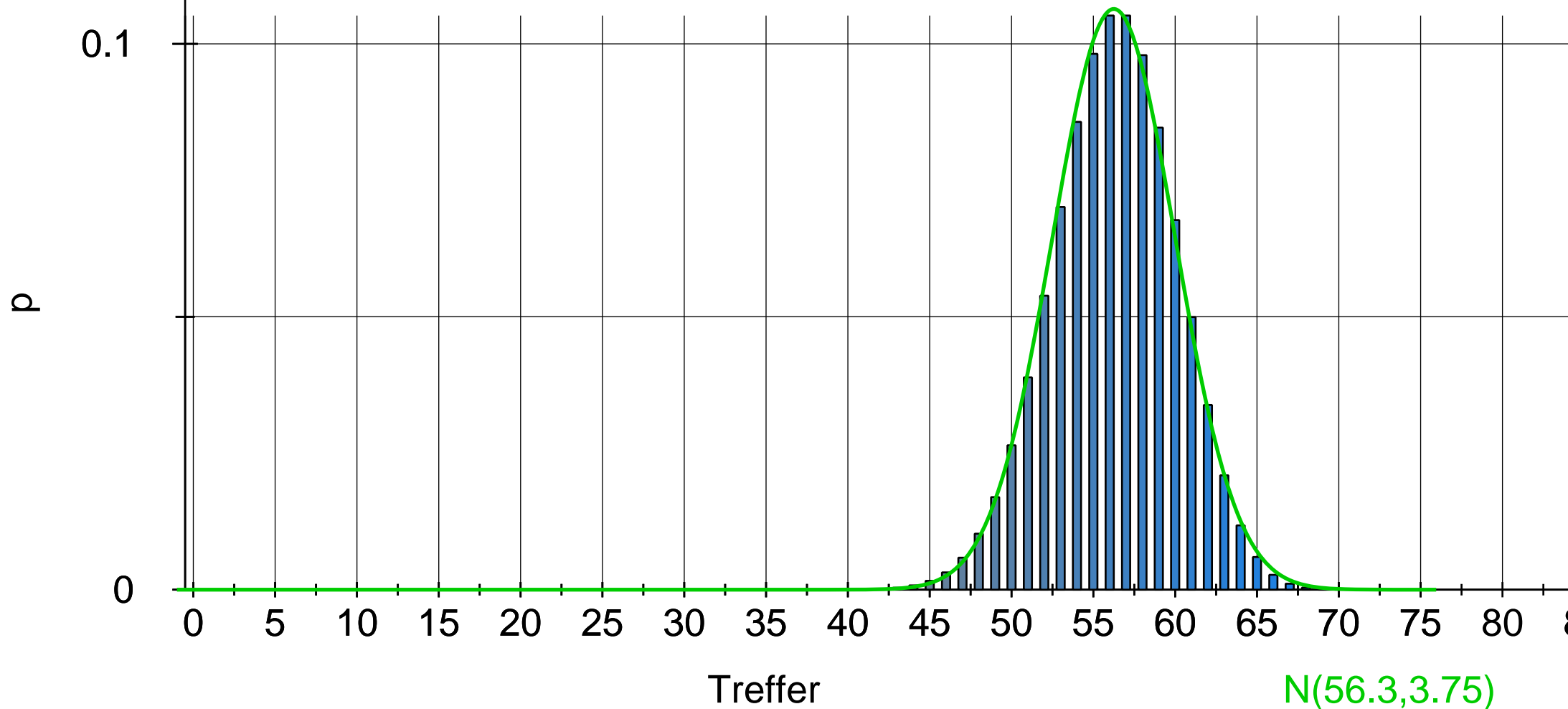
$n=74$ $p=3/4$



Mathematische Statistik

Binomialverteilung

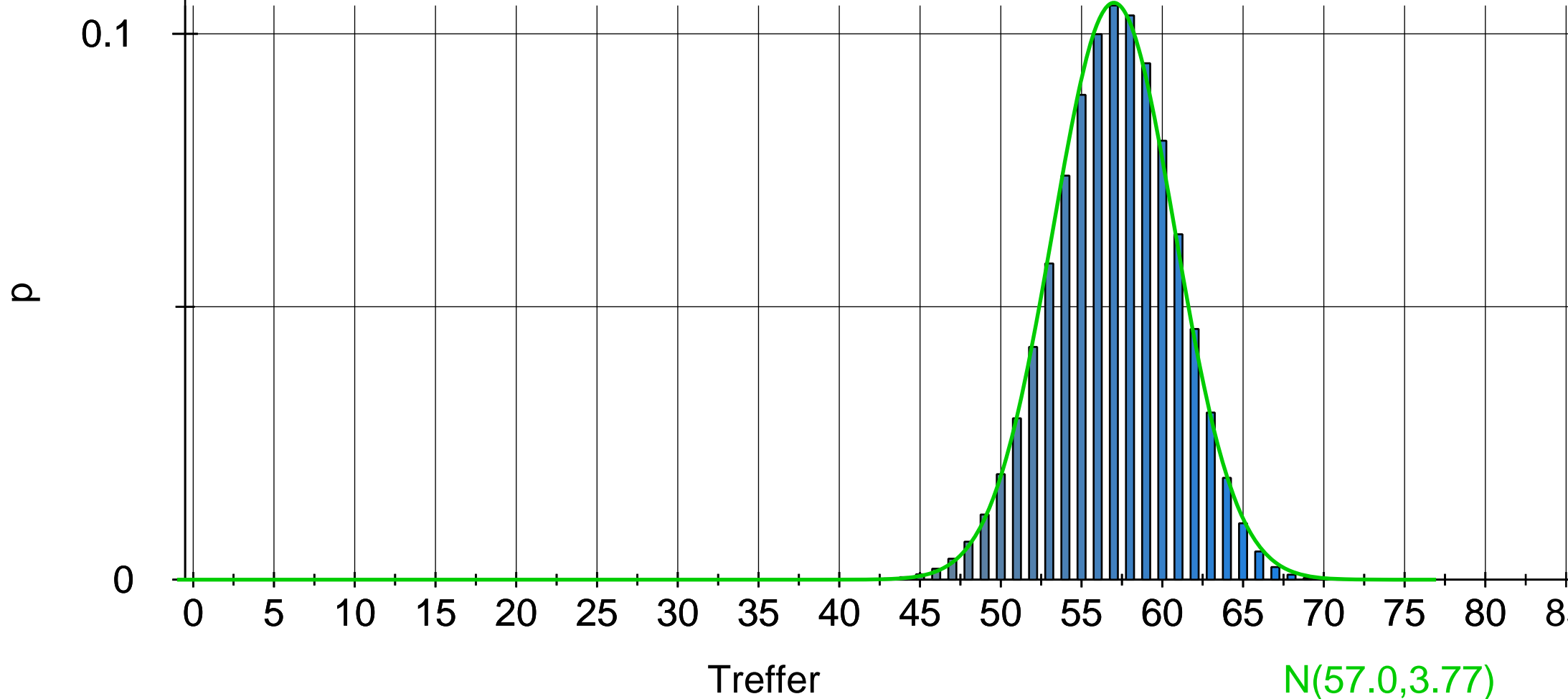
$n=75$ $p=3/4$



Mathematische Statistik

Binomialverteilung

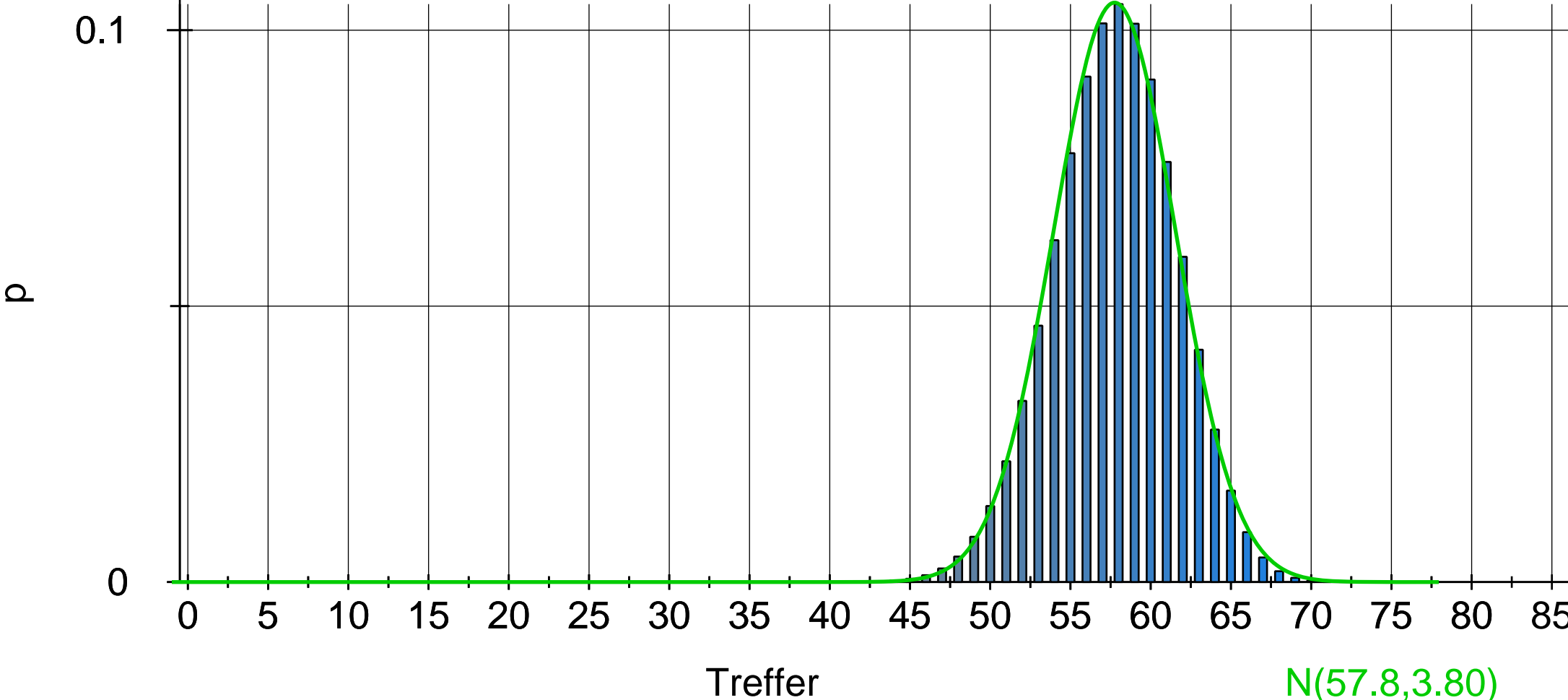
n=76 p=3/4



Mathematische Statistik

Binomialverteilung

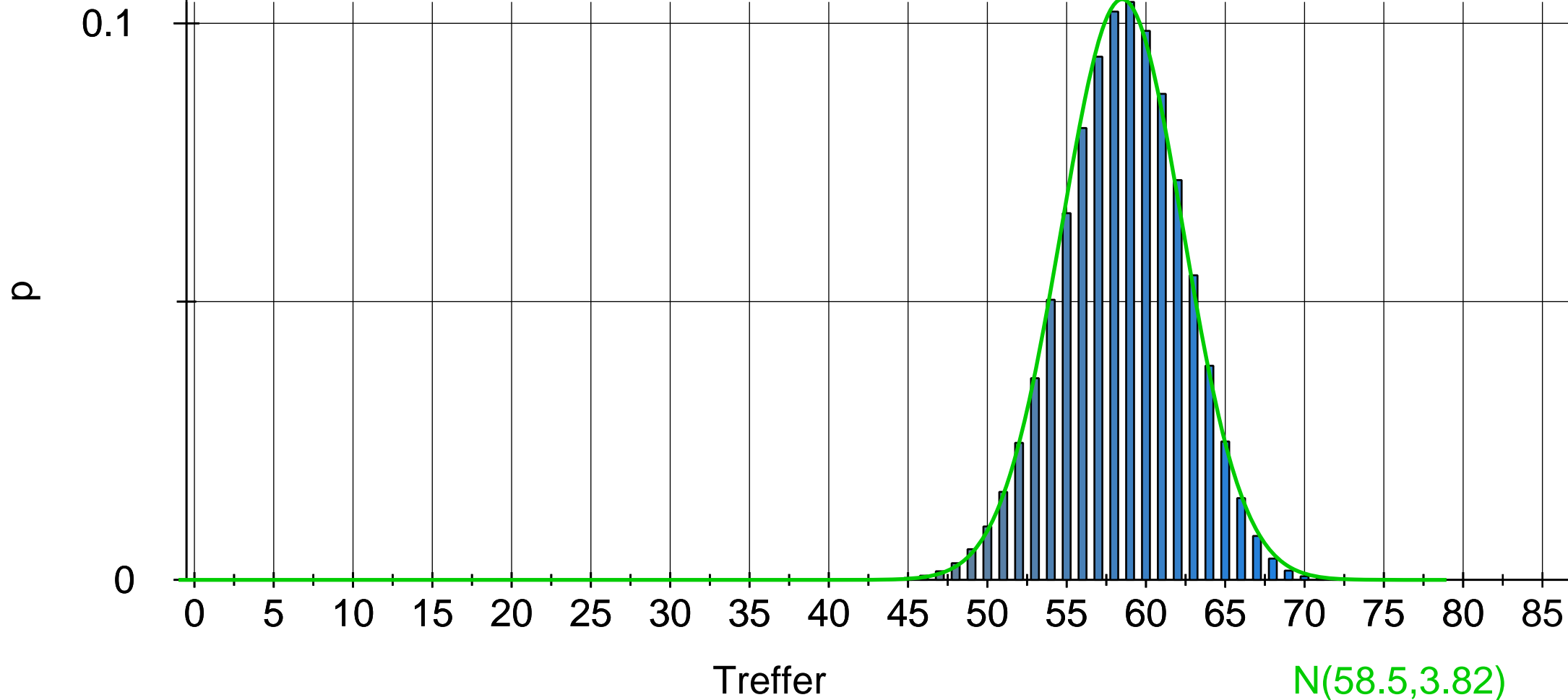
n=77 p=3/4



Mathematische Statistik

Binomialverteilung

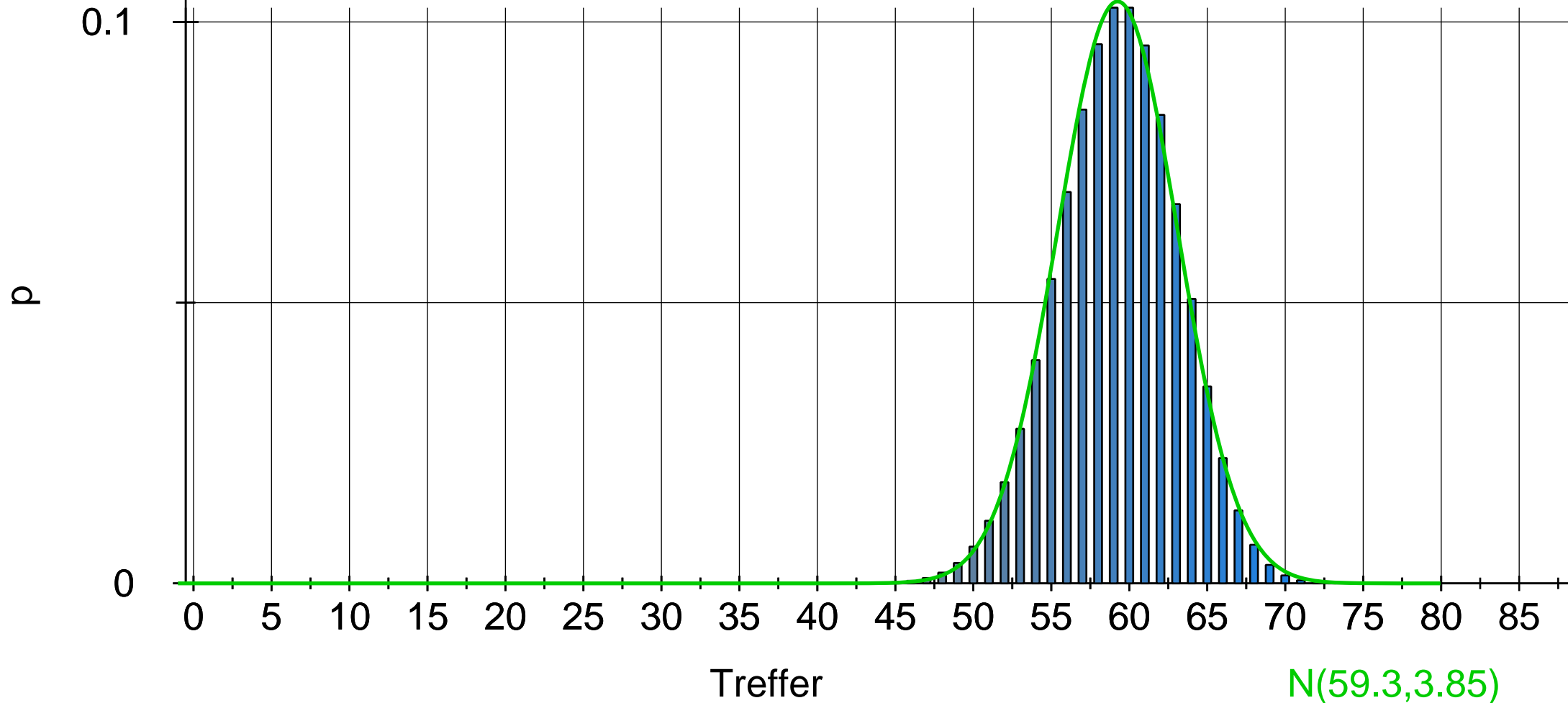
$n=78$ $p=3/4$



Mathematische Statistik

Binomialverteilung

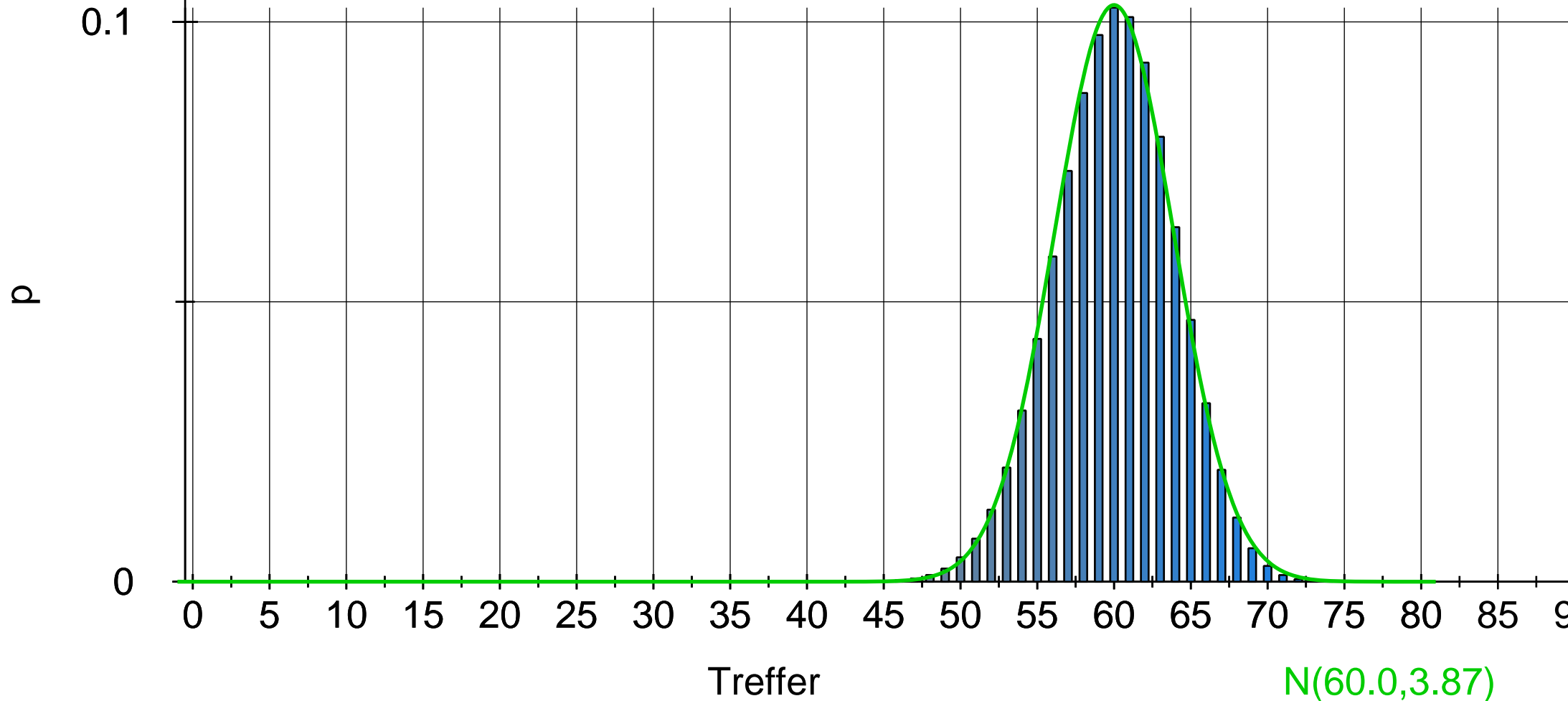
n=79 p=3/4



Mathematische Statistik

Binomialverteilung

n=80 p=3/4

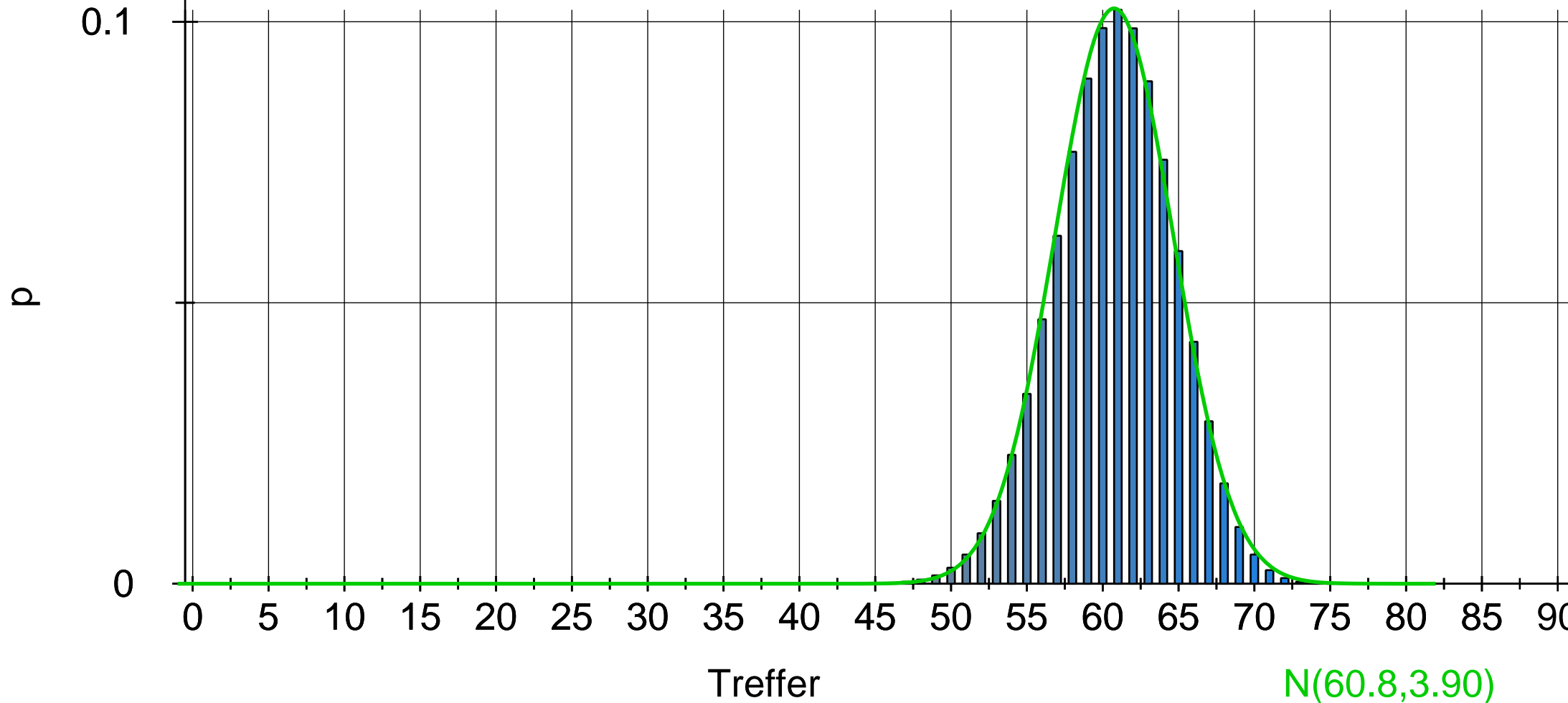


$N(60.0, 3.87)$

Mathematische Statistik

Binomialverteilung

n=81 p=3/4

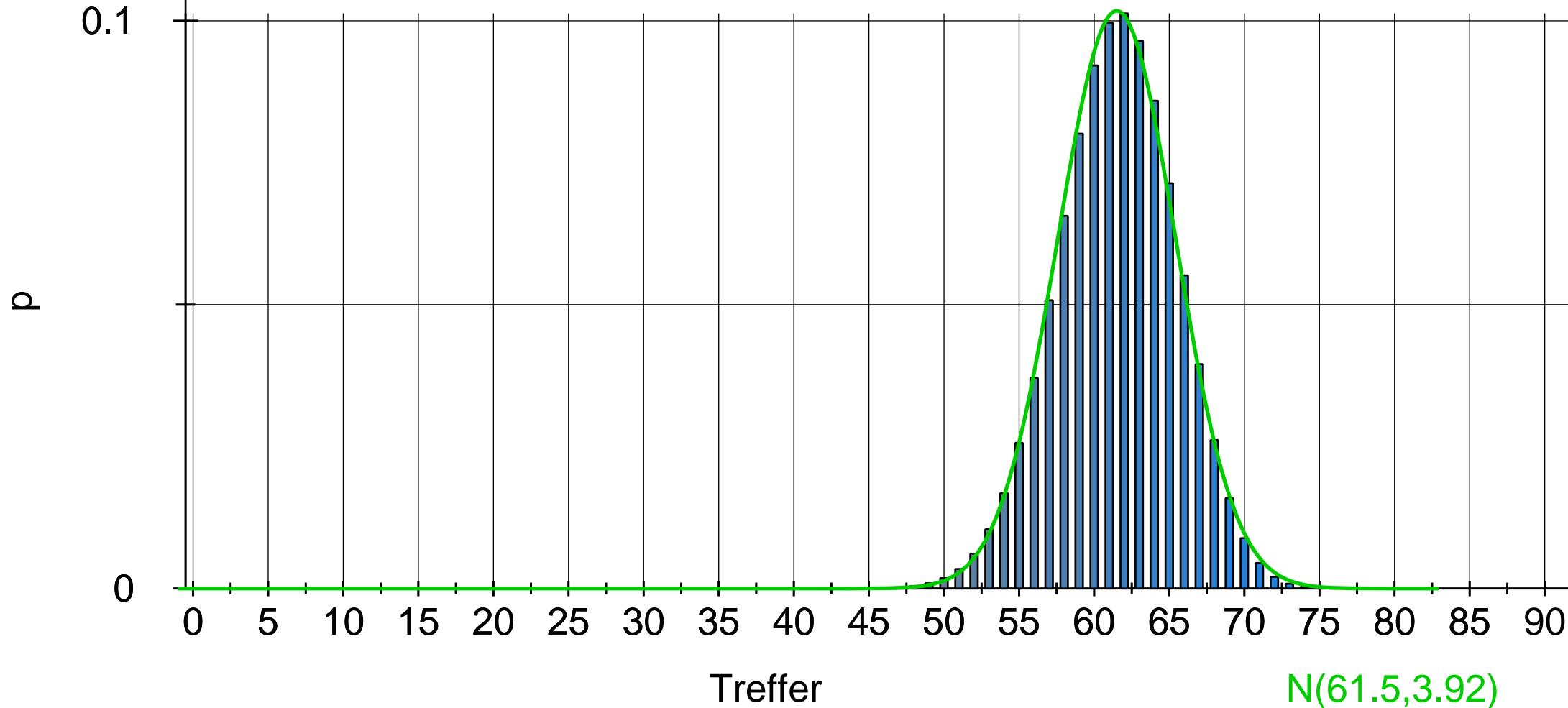


$N(60.8, 3.90)$

Mathematische Statistik

Binomialverteilung

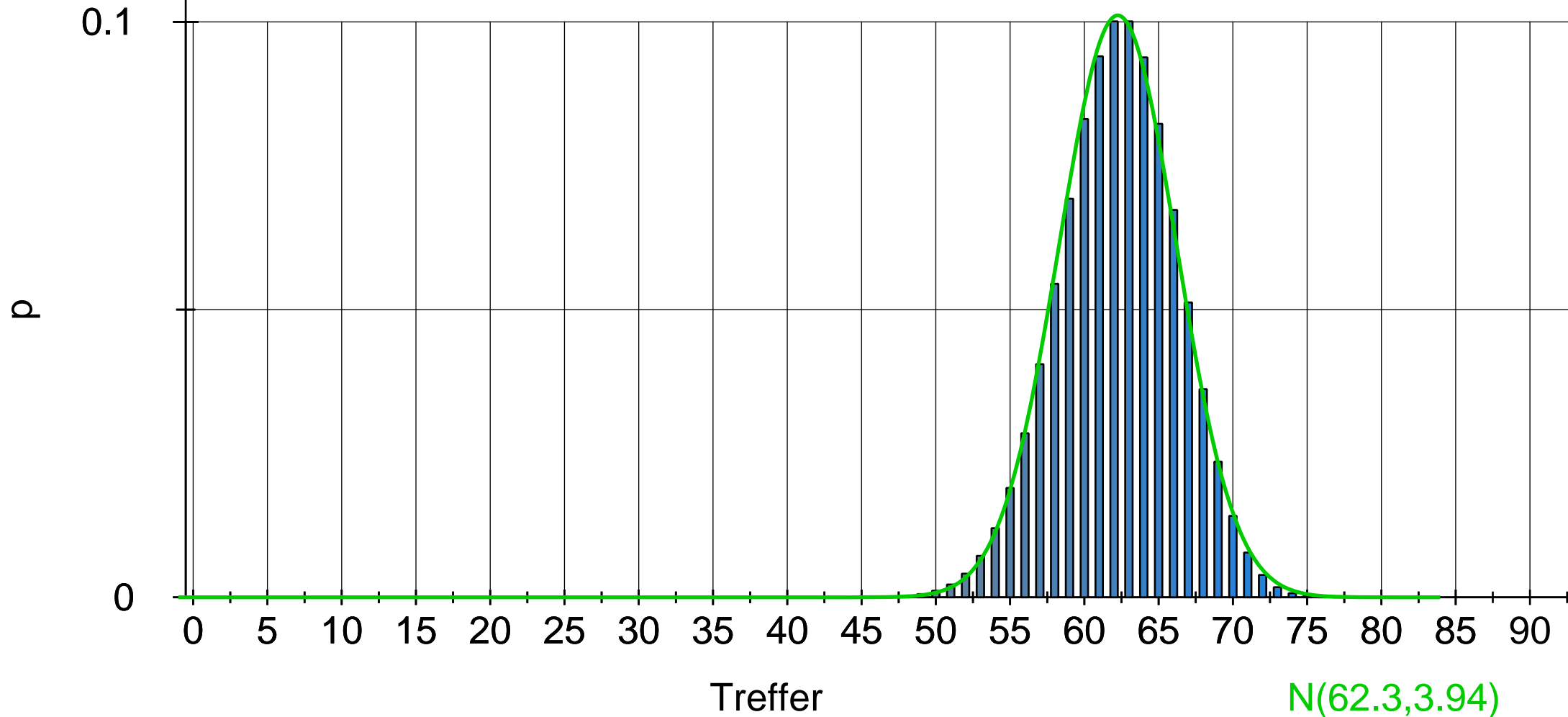
n=82 p=3/4



Mathematische Statistik

Binomialverteilung

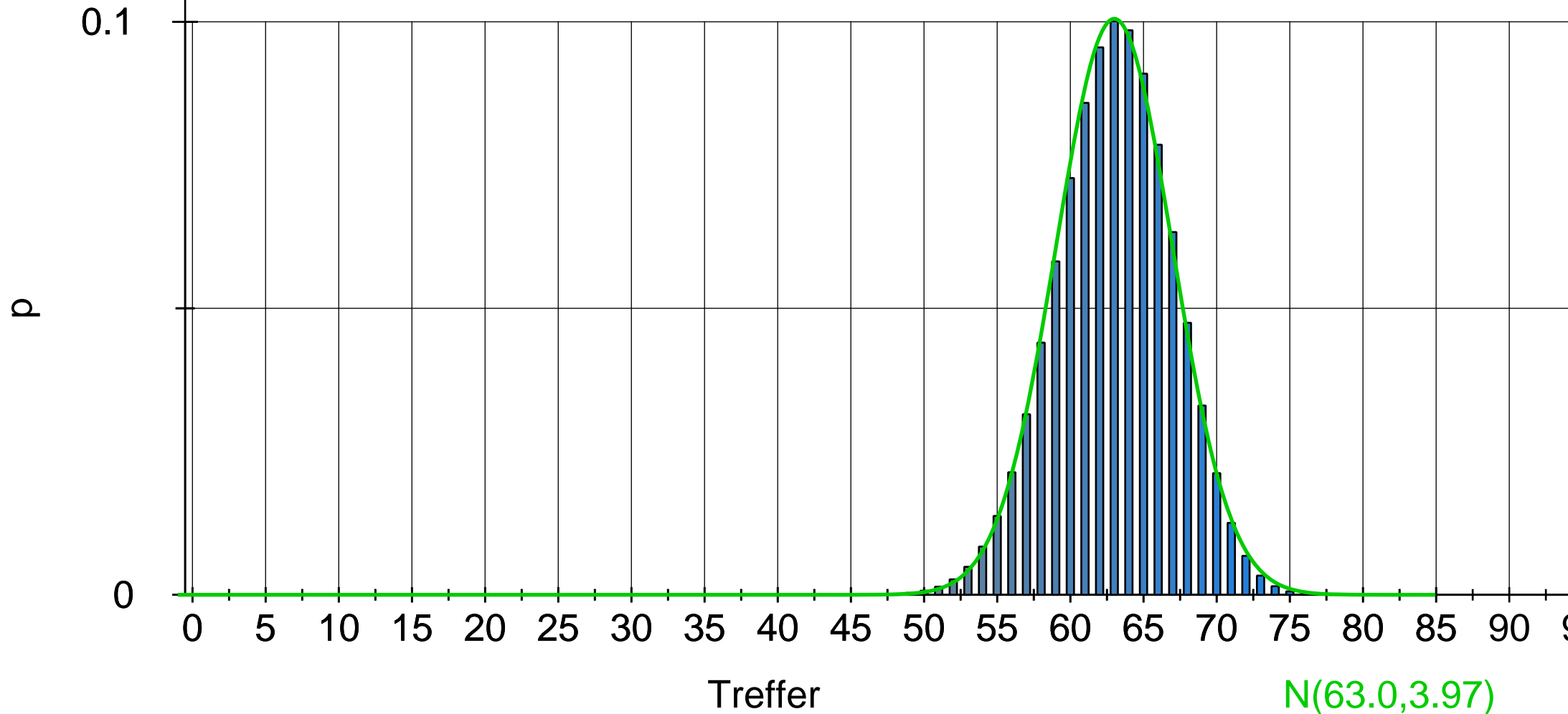
n=83 p=3/4



Mathematische Statistik

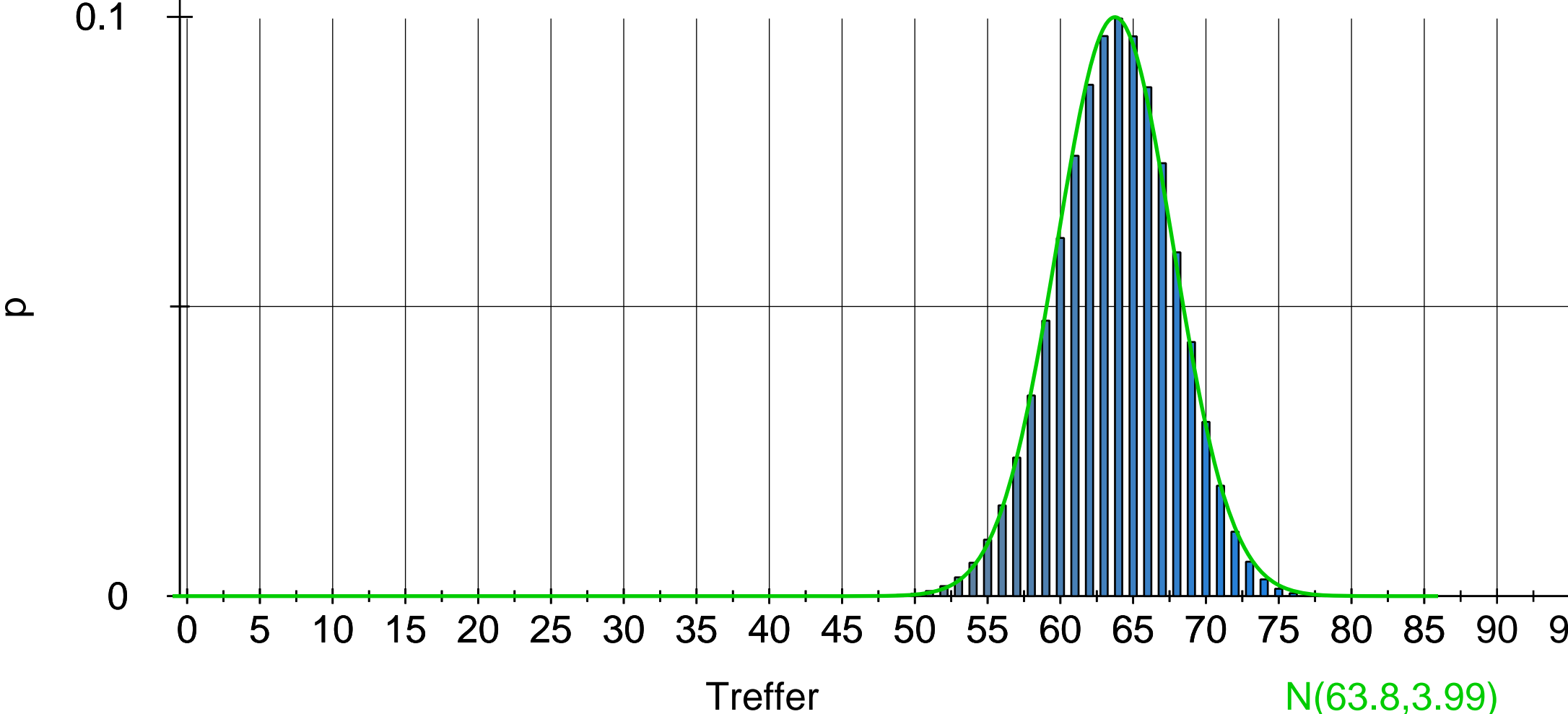
Binomialverteilung

n=84 p=3/4



Mathematische Statistik
Binomialverteilung

n=85 p=3/4

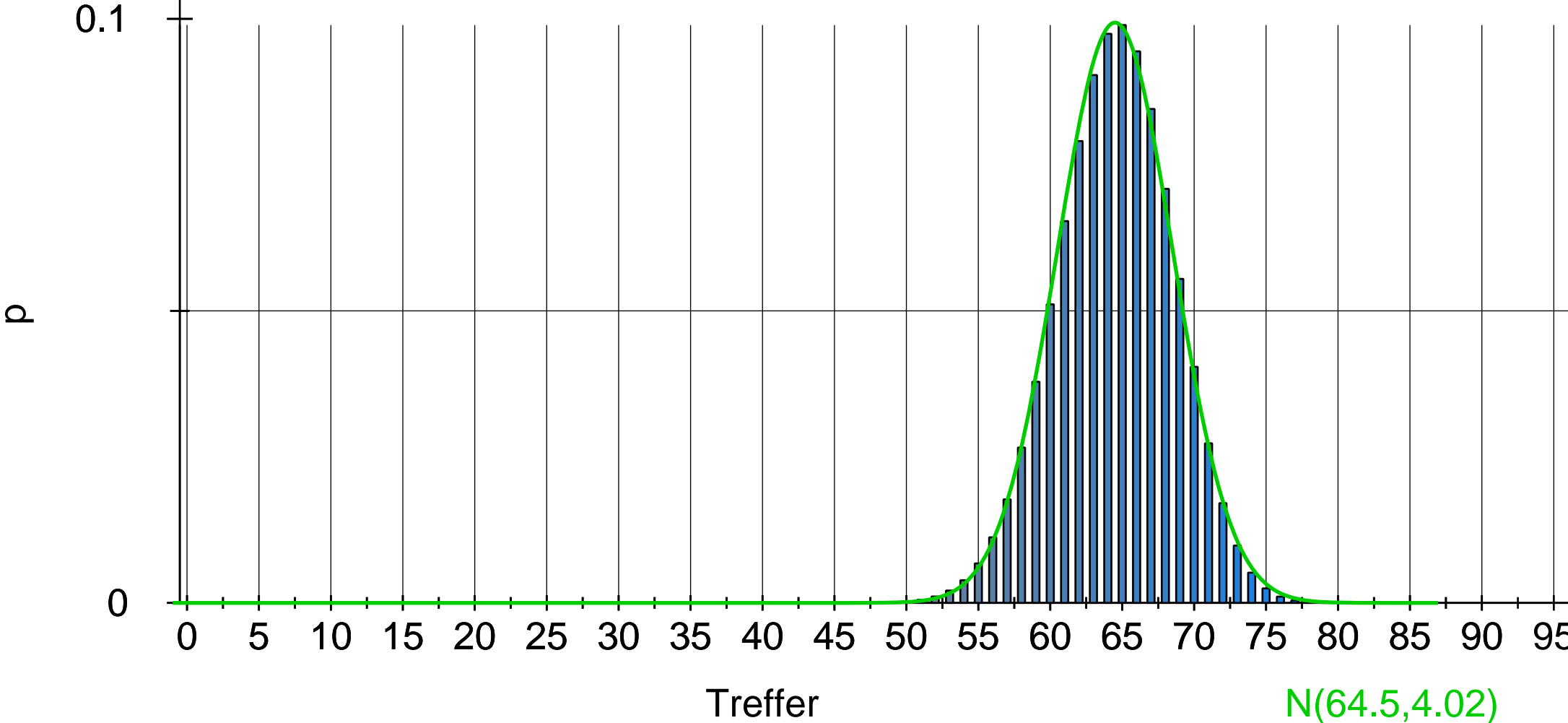


$N(63.8, 3.99)$

Mathematische Statistik

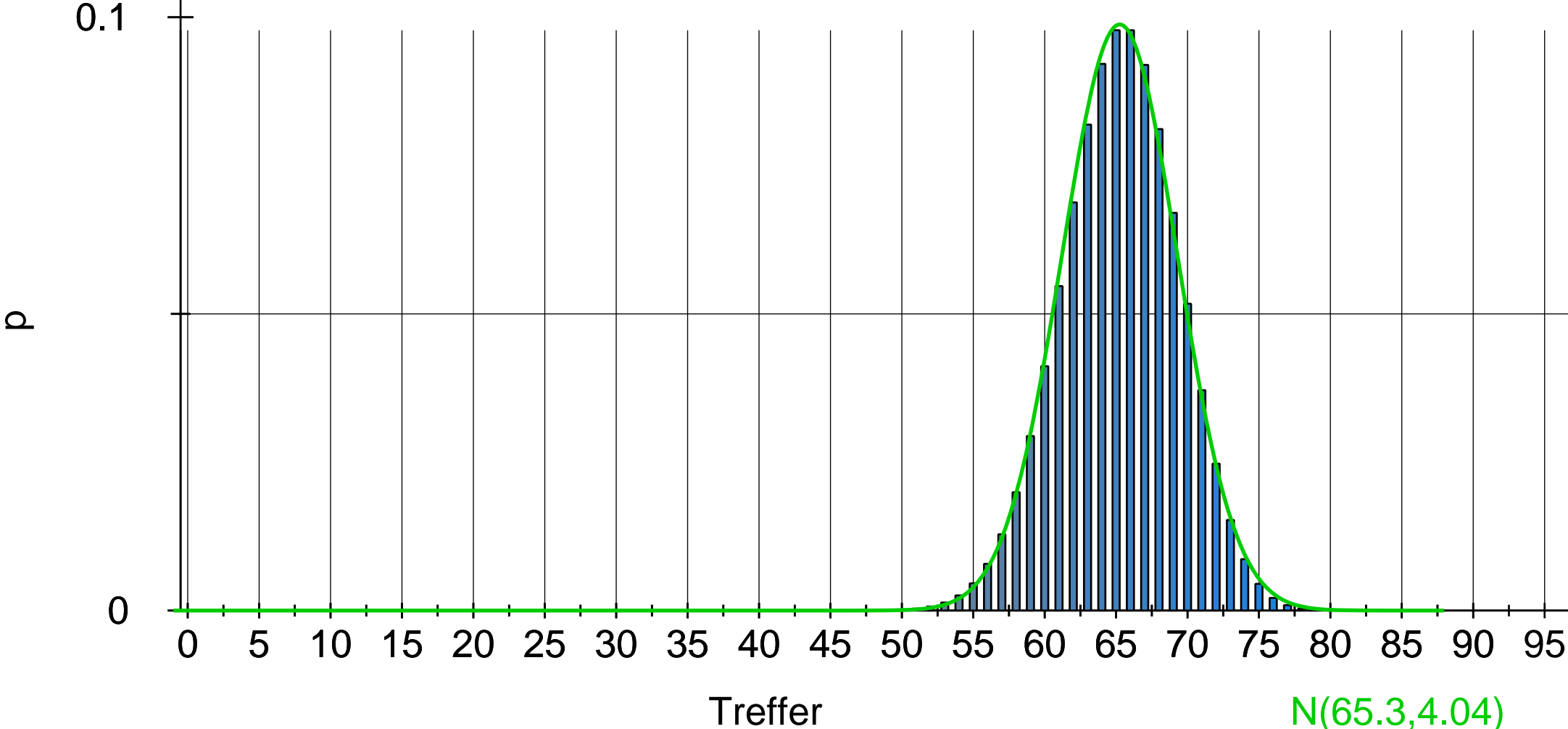
Binomialverteilung

n=86 p=3/4



Mathematische Statistik
Binomialverteilung

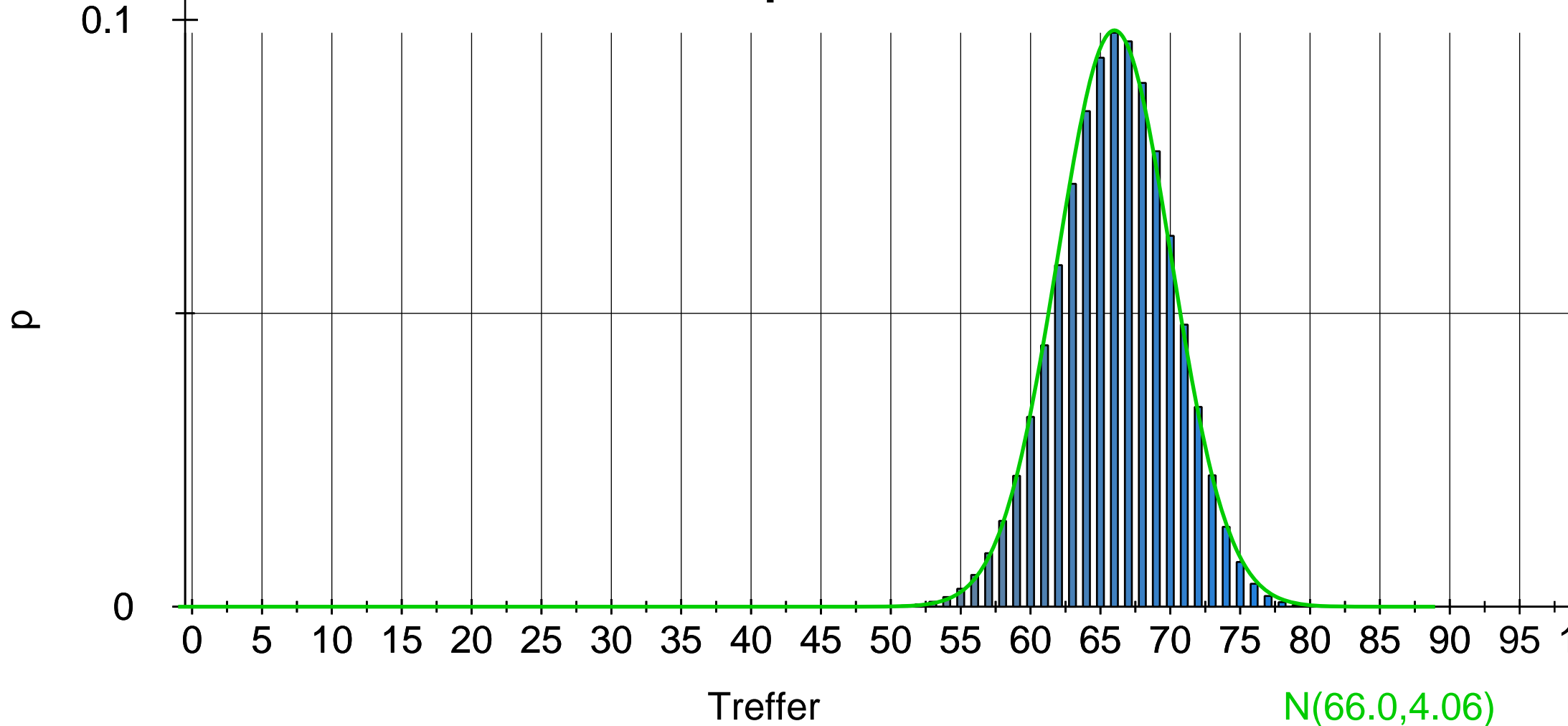
n=87 p=3/4



Mathematische Statistik

Binomialverteilung

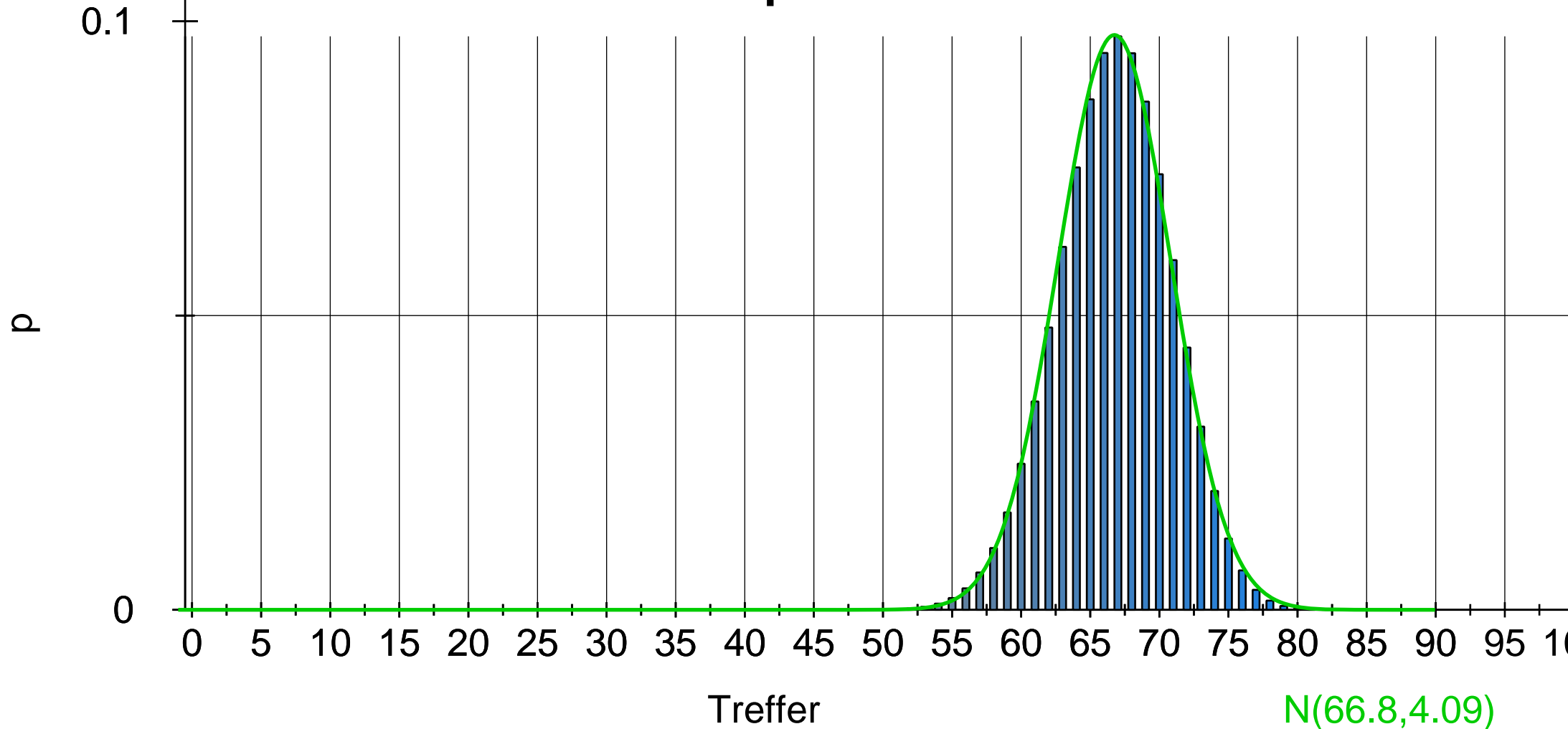
n=88 p=3/4



Mathematische Statistik

Binomialverteilung

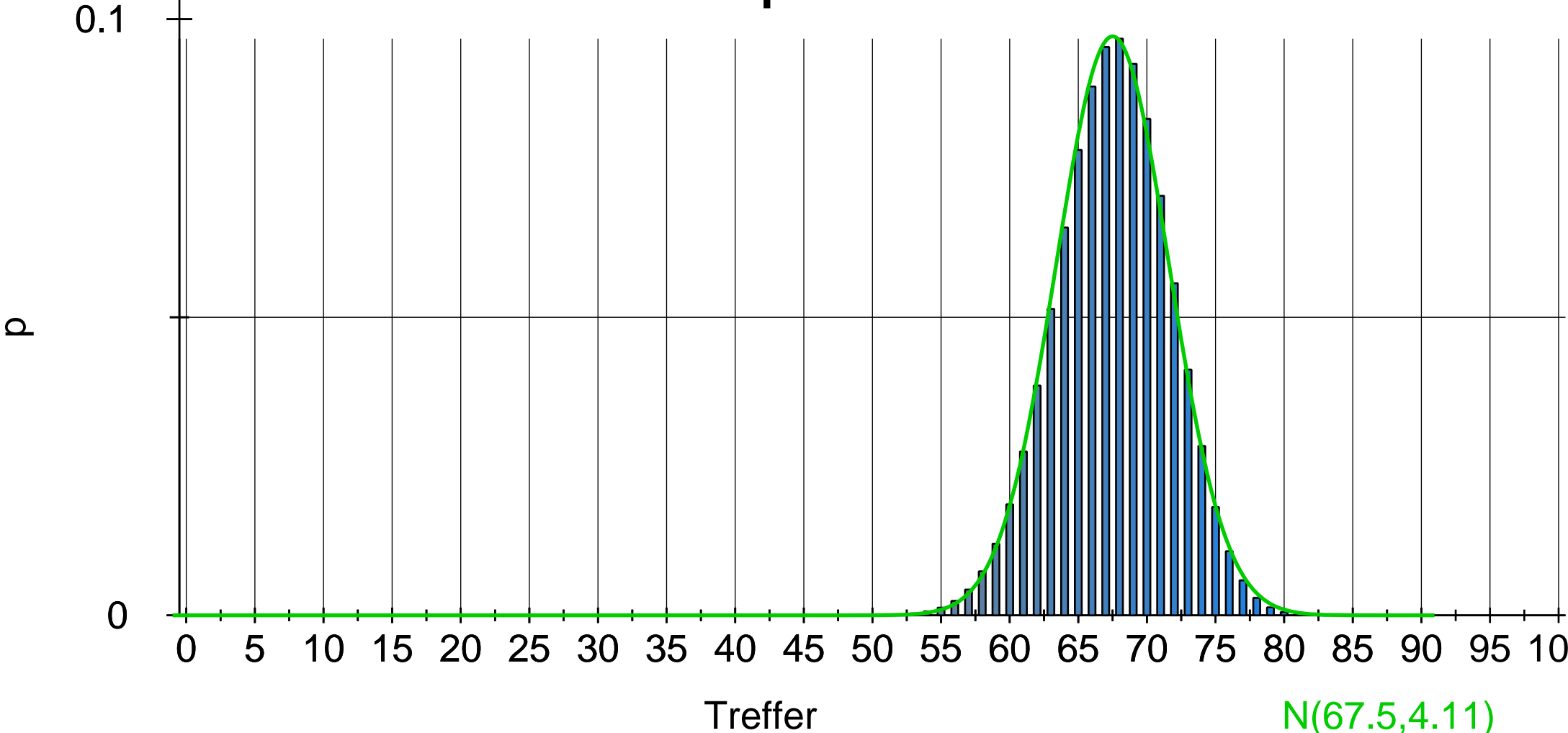
n=89 p=3/4



$N(66.8, 4.09)$

Mathematische Statistik
Binomialverteilung

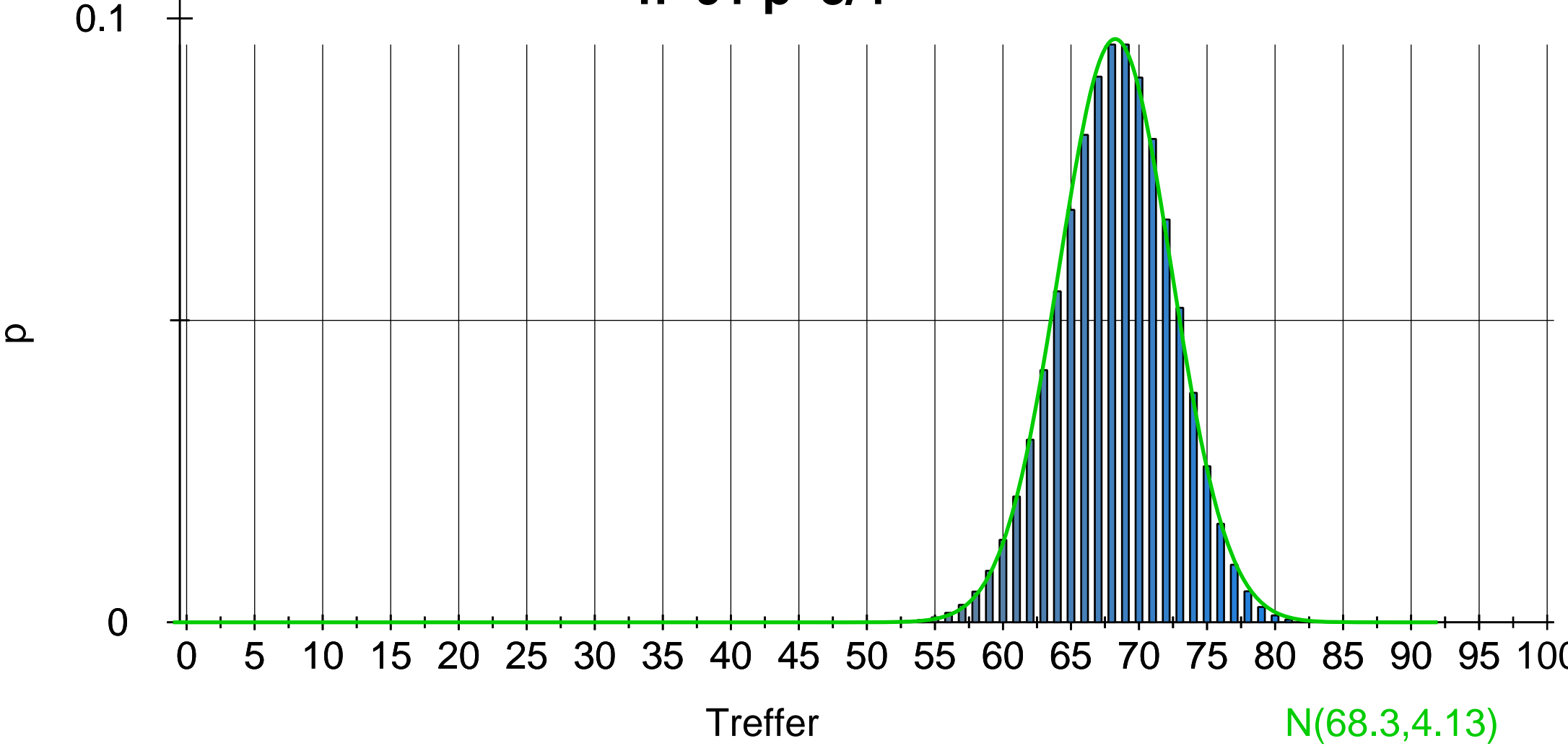
n=90 p=3/4



$N(67.5, 4.11)$

Mathematische Statistik
Binomialverteilung

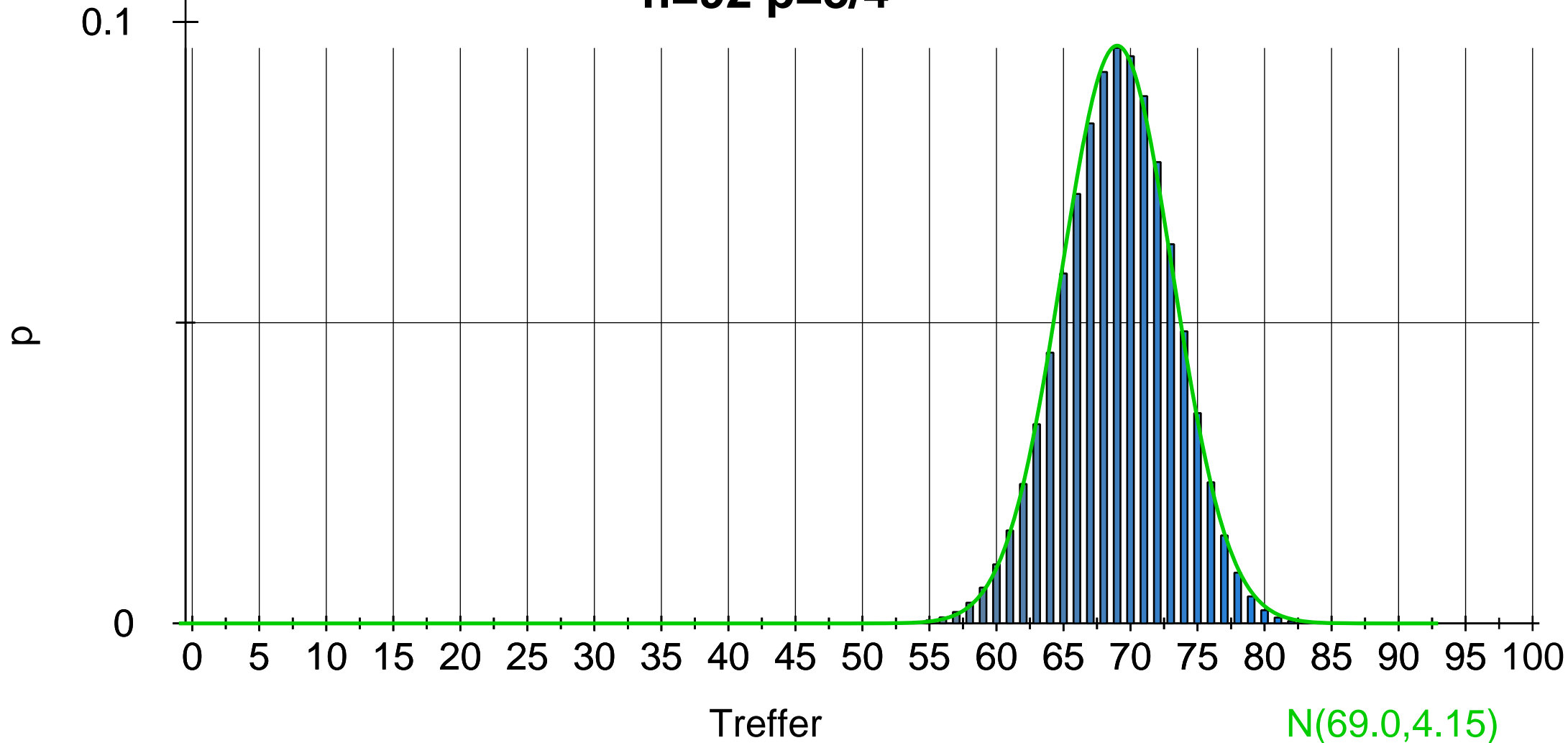
n=91 p=3/4



Mathematische Statistik

Binomialverteilung

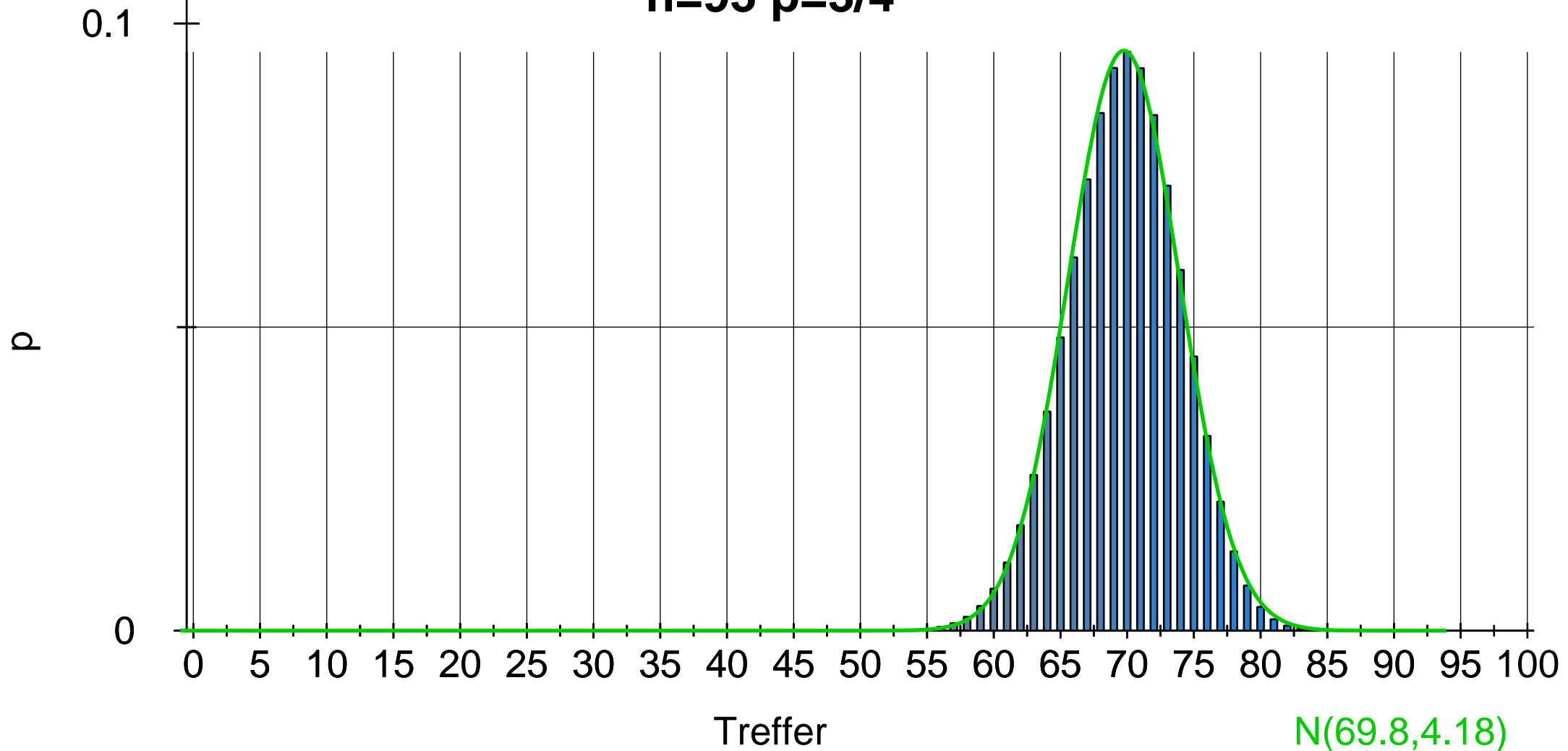
n=92 p=3/4



Mathematische Statistik

Binomialverteilung

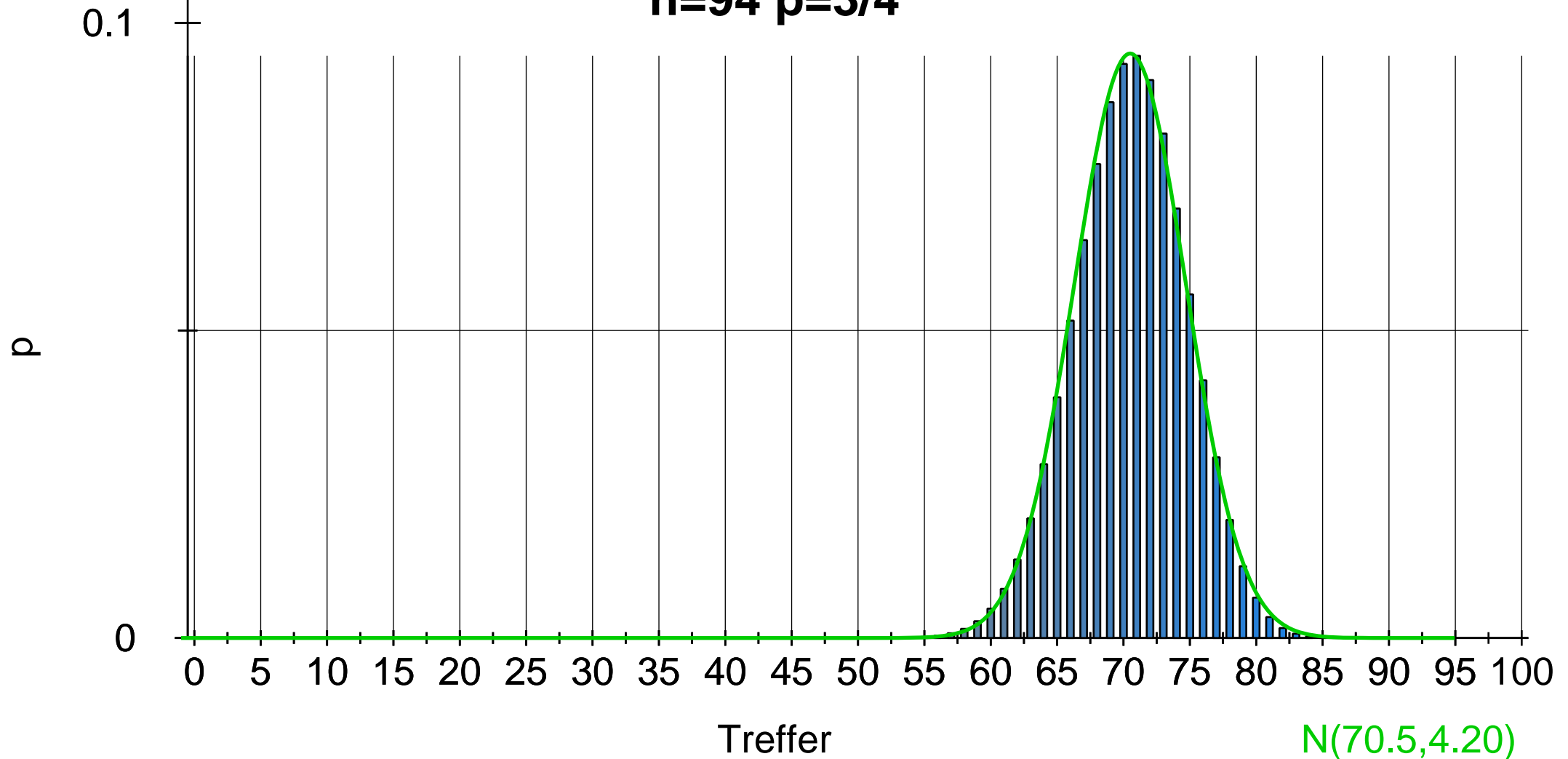
n=93 p=3/4



Mathematische Statistik

Binomialverteilung

$n=94$ $p=3/4$

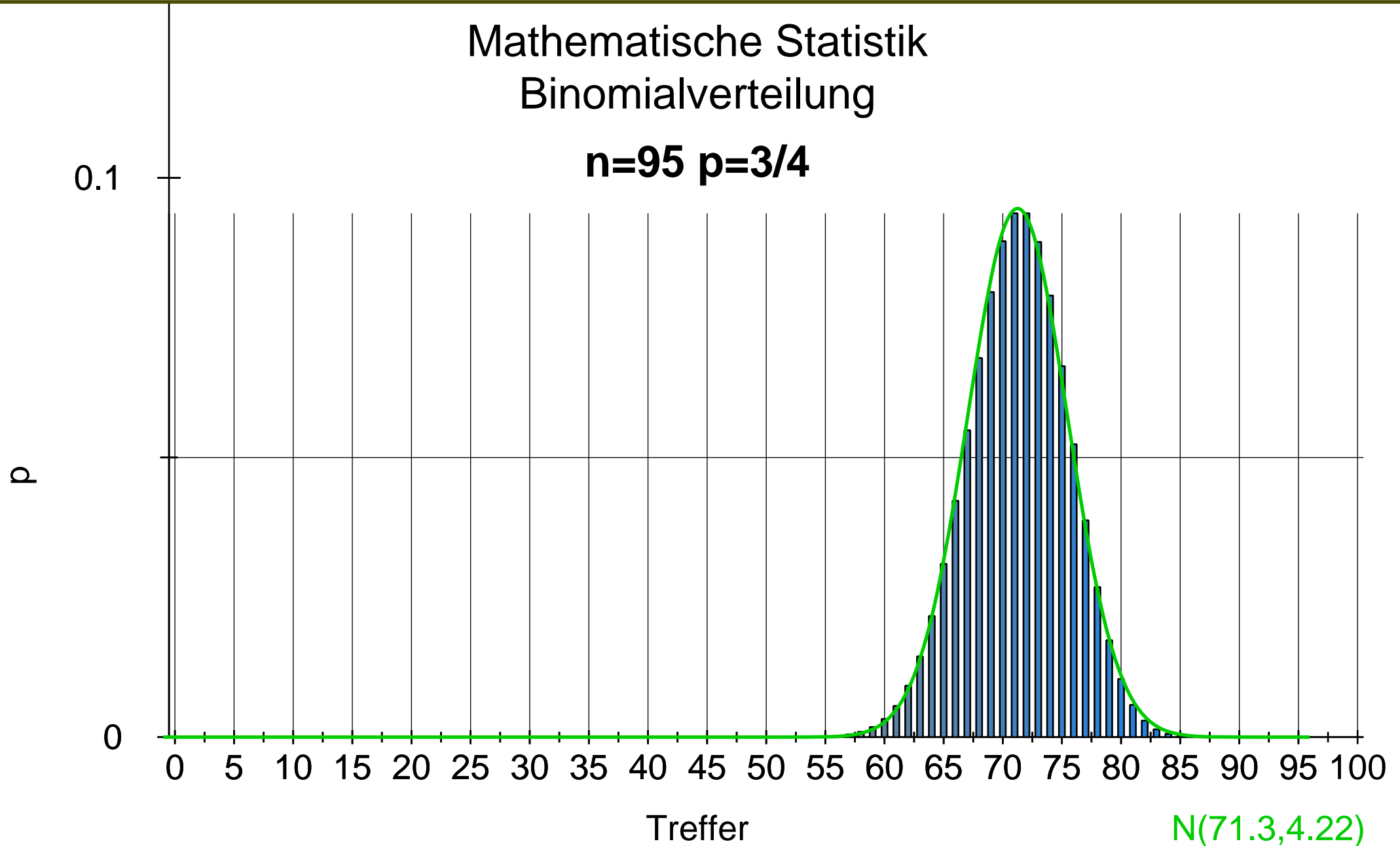


$N(70.5, 4.20)$

Mathematische Statistik

Binomialverteilung

n=95 p=3/4

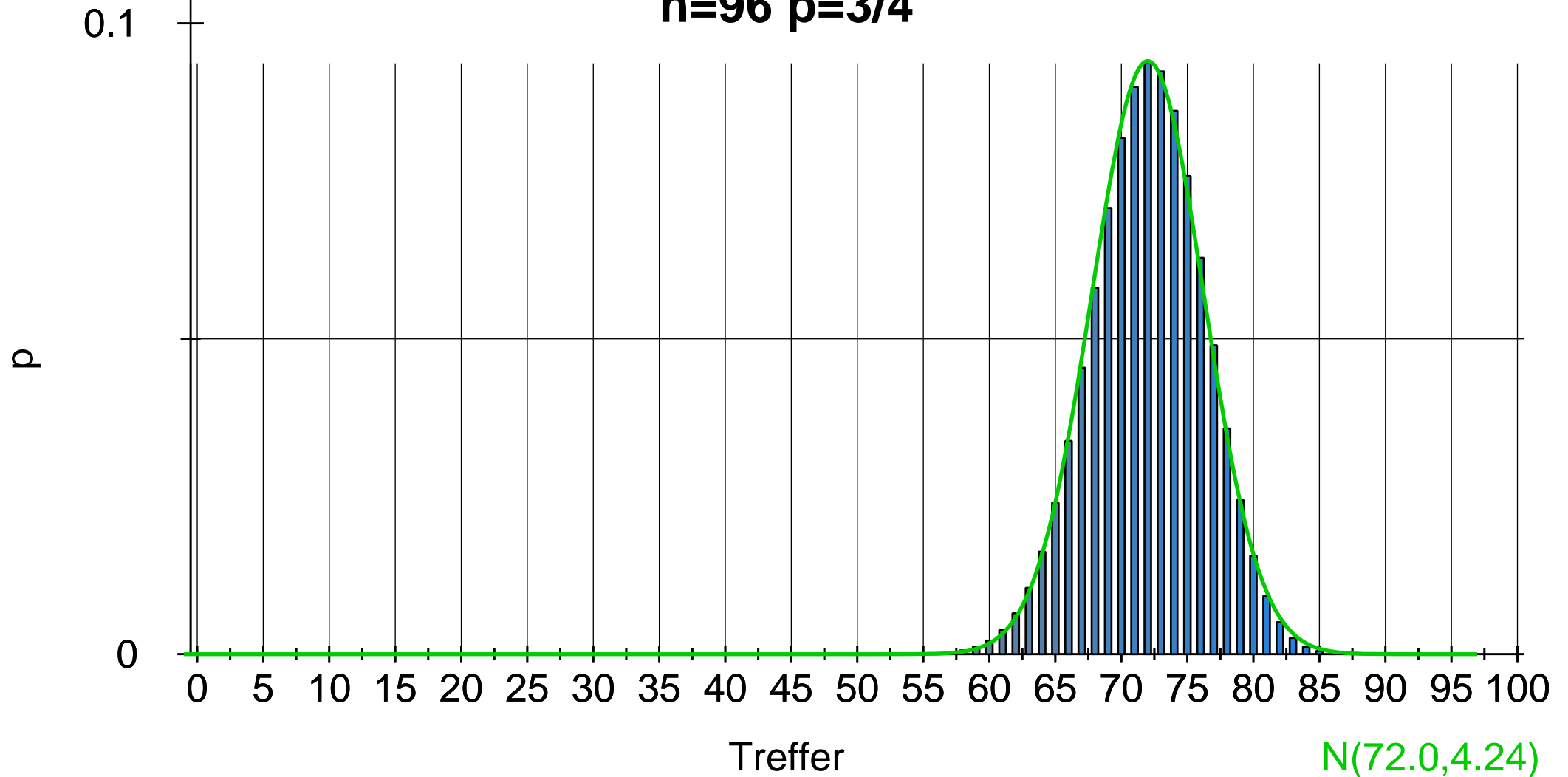


$N(71.3, 4.22)$

Mathematische Statistik

Binomialverteilung

n=96 p=3/4

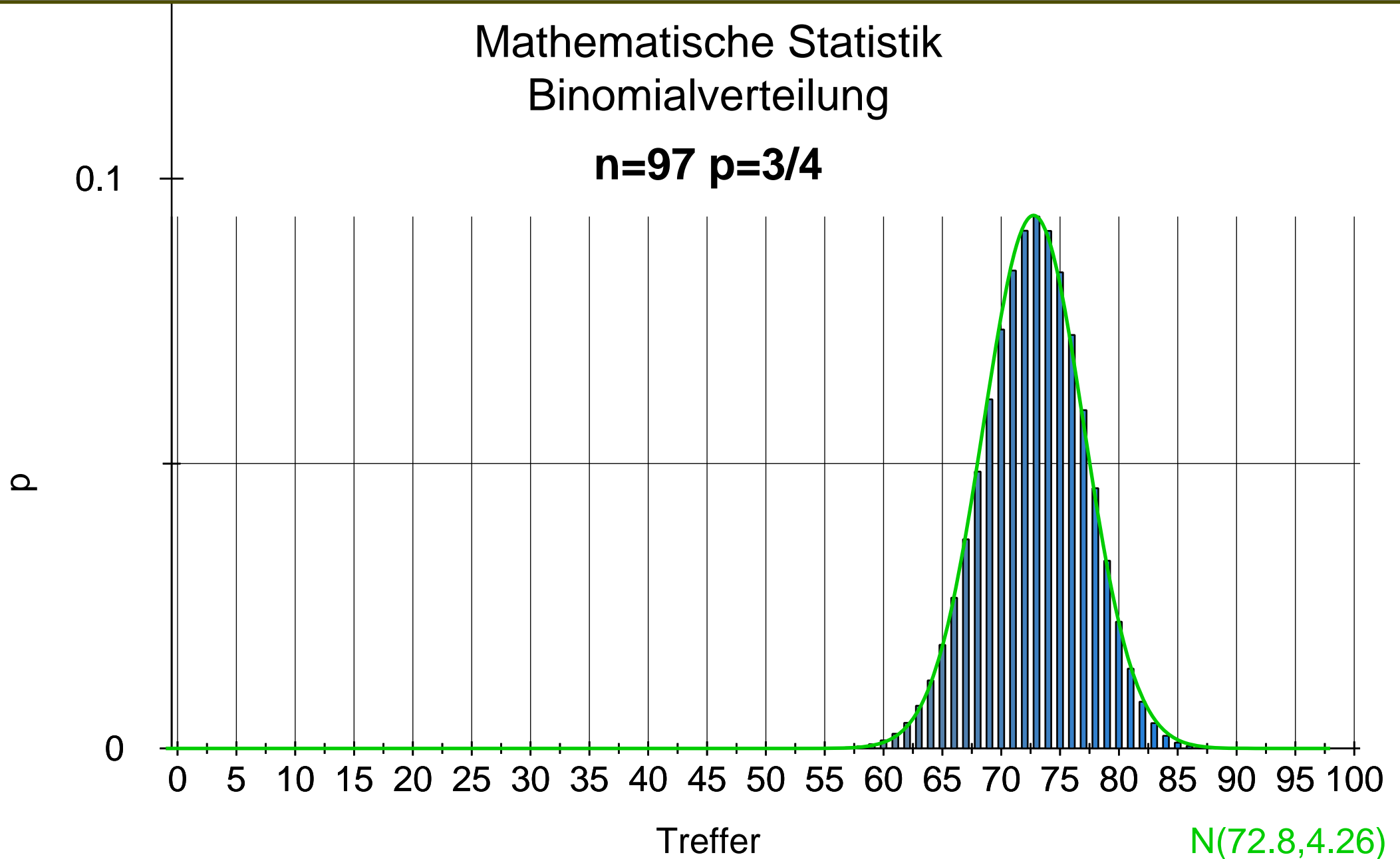


$N(72.0, 4.24)$

Mathematische Statistik

Binomialverteilung

$n=97$ $p=3/4$

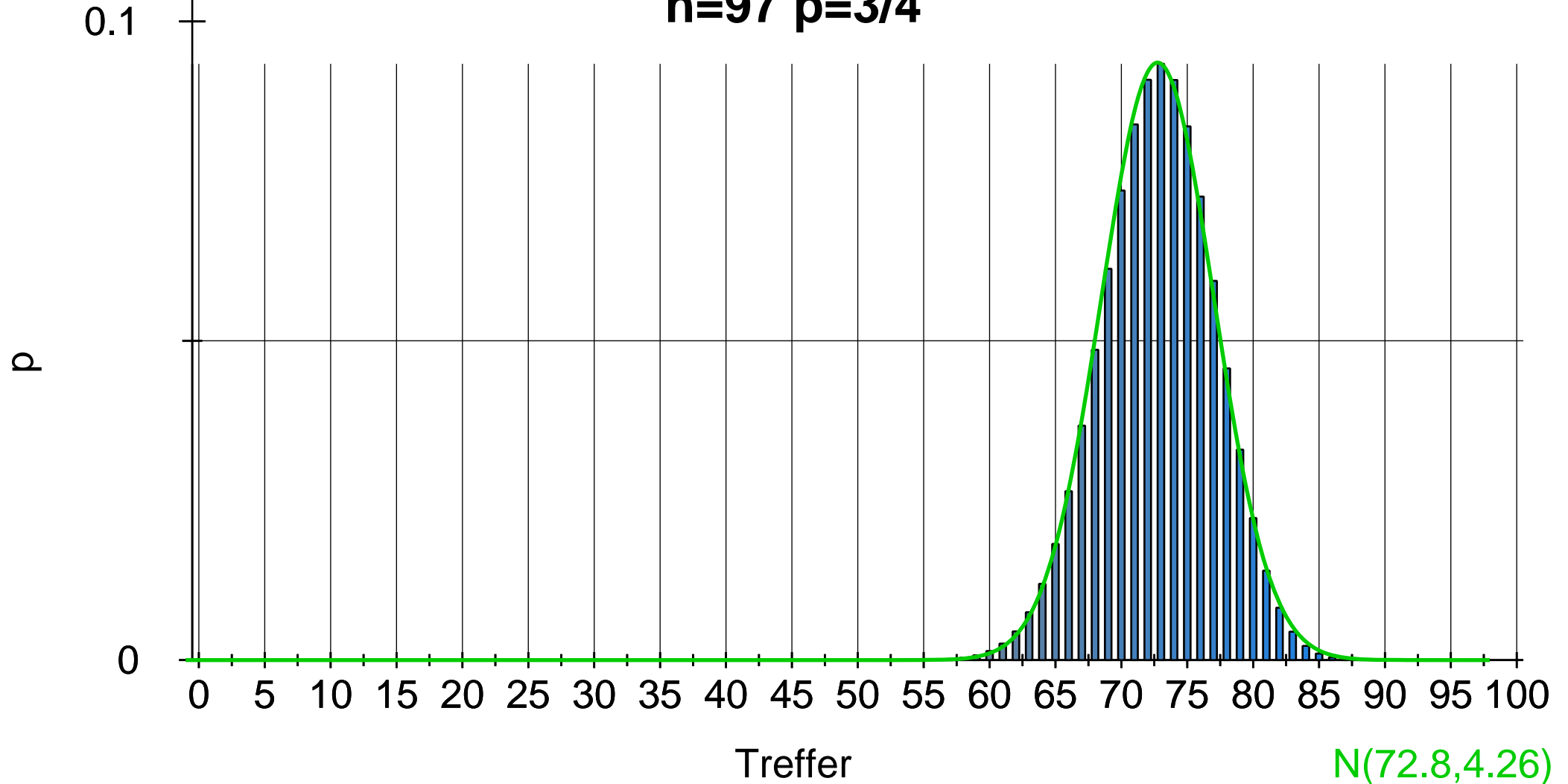


$N(72.8, 4.26)$

Mathematische Statistik

Binomialverteilung

$n=97$ $p=3/4$

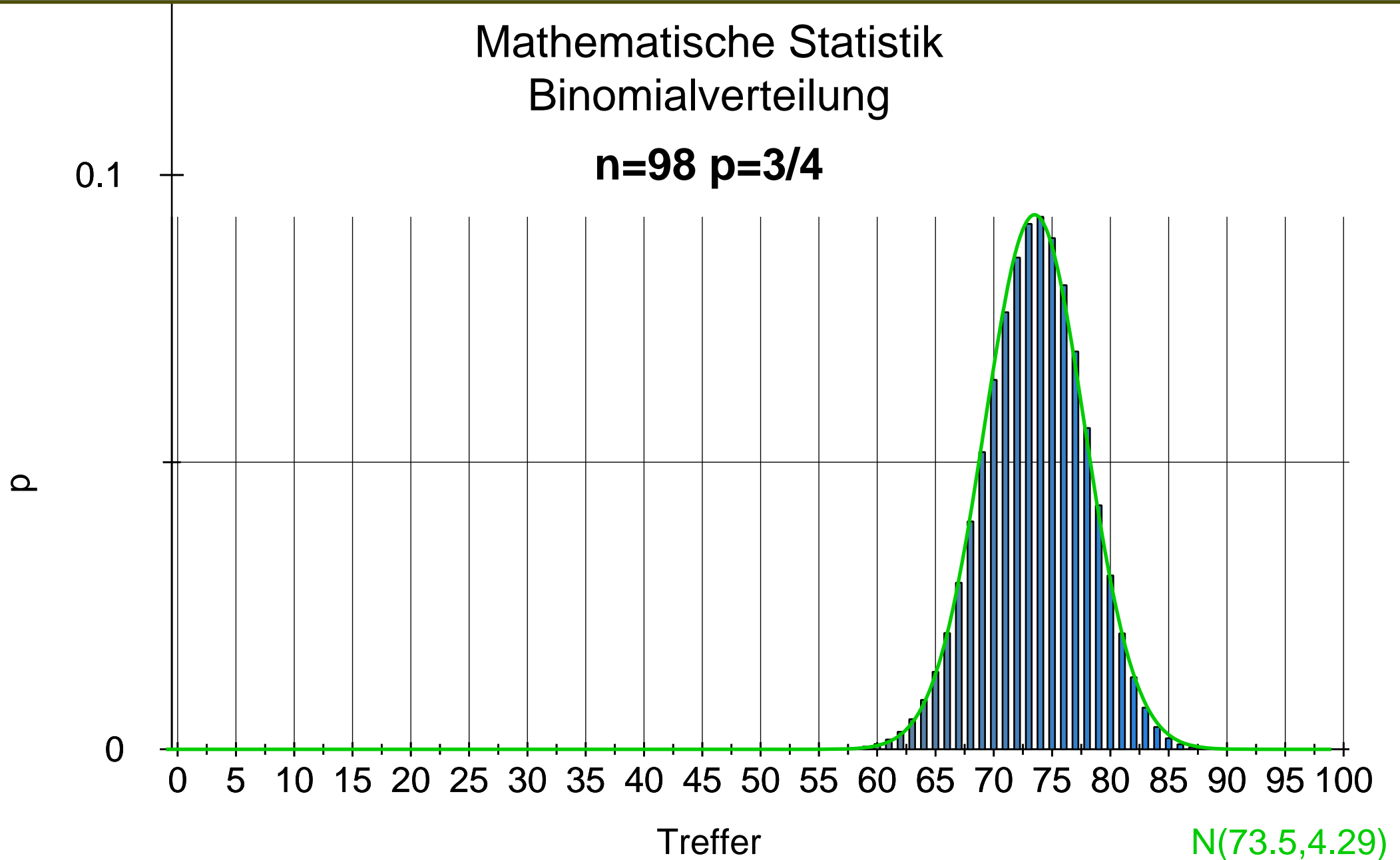


$N(72.8, 4.26)$

Mathematische Statistik

Binomialverteilung

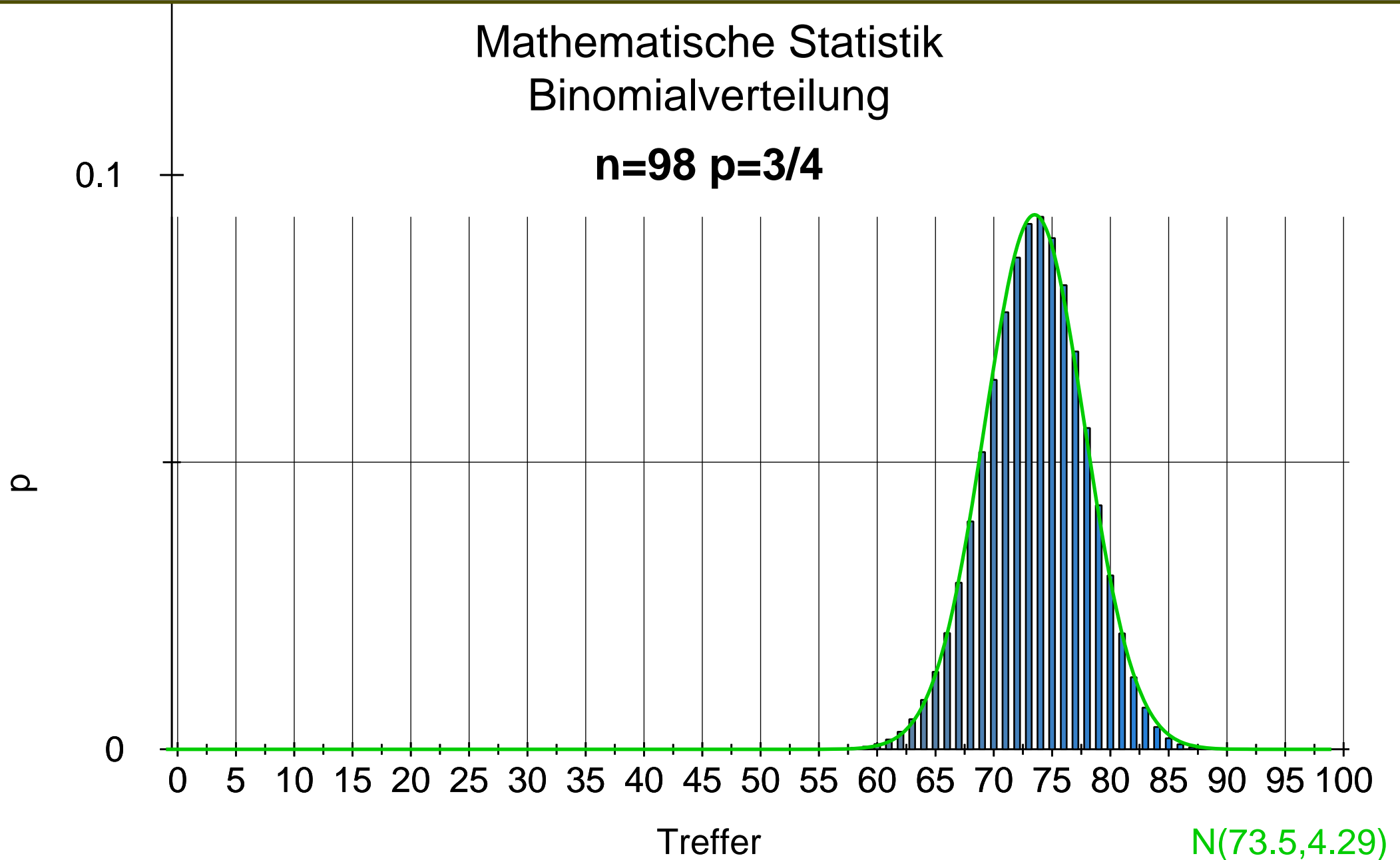
n=98 p=3/4



Mathematische Statistik

Binomialverteilung

n=98 p=3/4

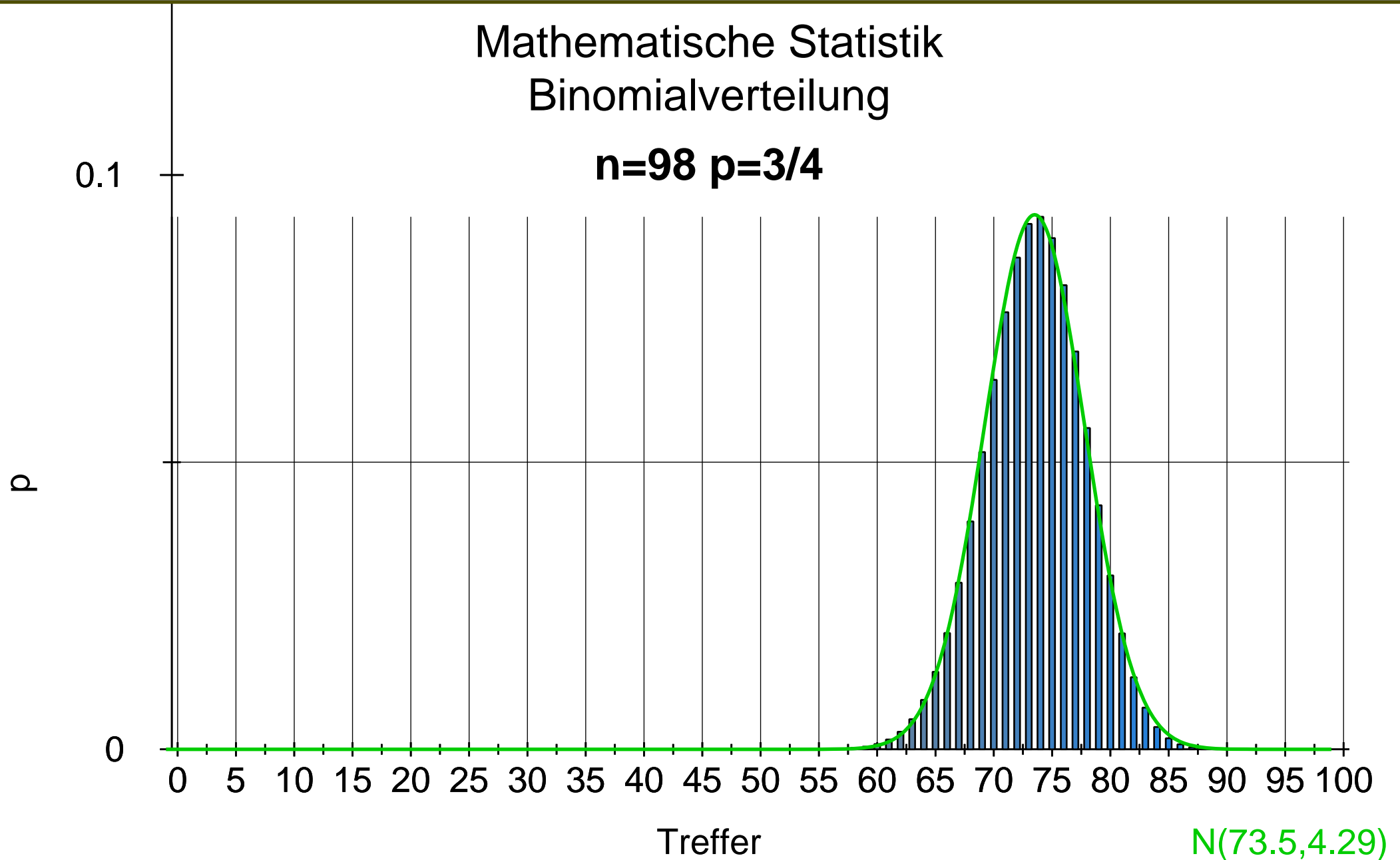


$N(73.5, 4.29)$

Mathematische Statistik

Binomialverteilung

n=98 p=3/4

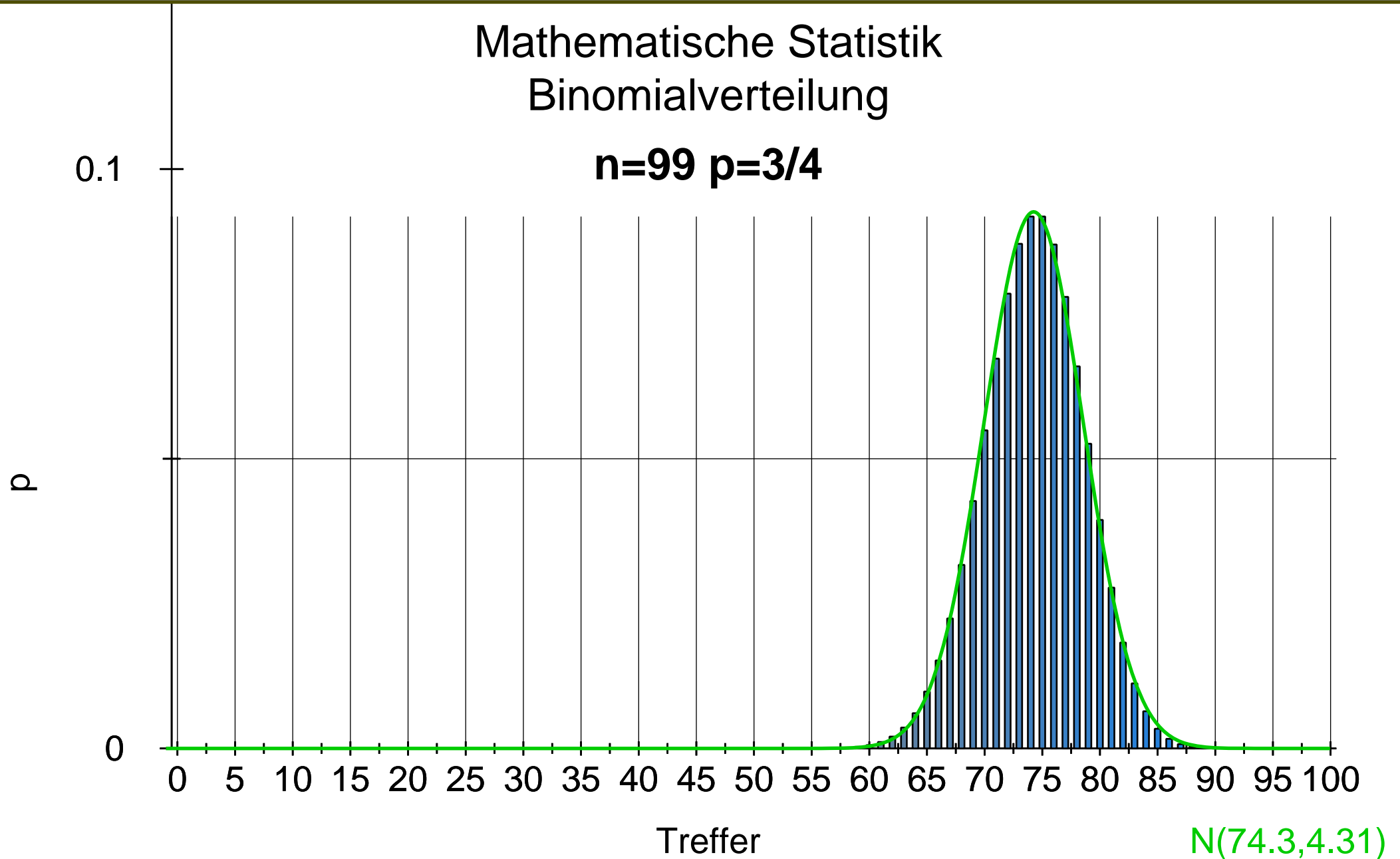


$N(73.5, 4.29)$

Mathematische Statistik

Binomialverteilung

n=99 p=3/4

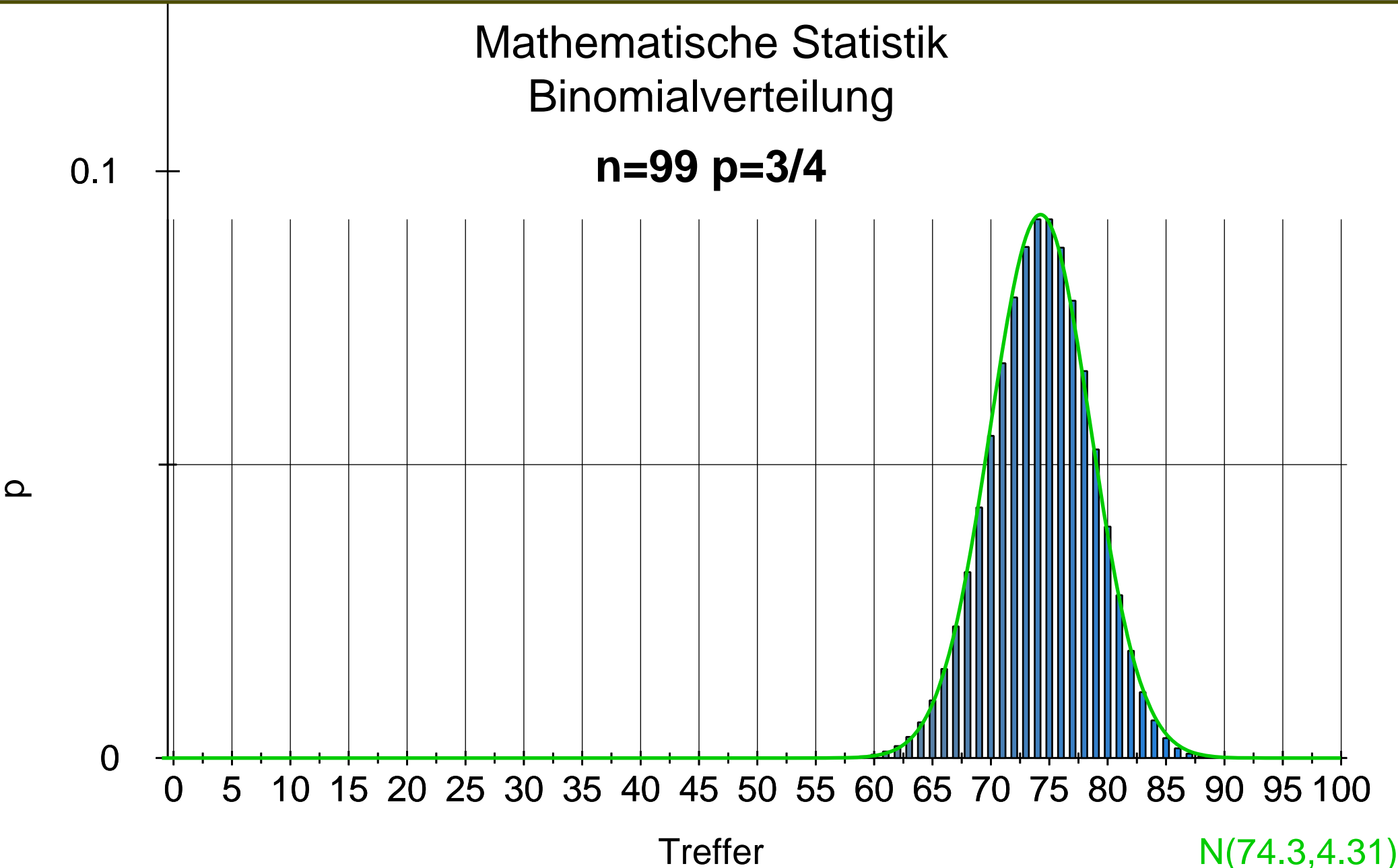


$N(74.3, 4.31)$

Mathematische Statistik

Binomialverteilung

n=99 p=3/4

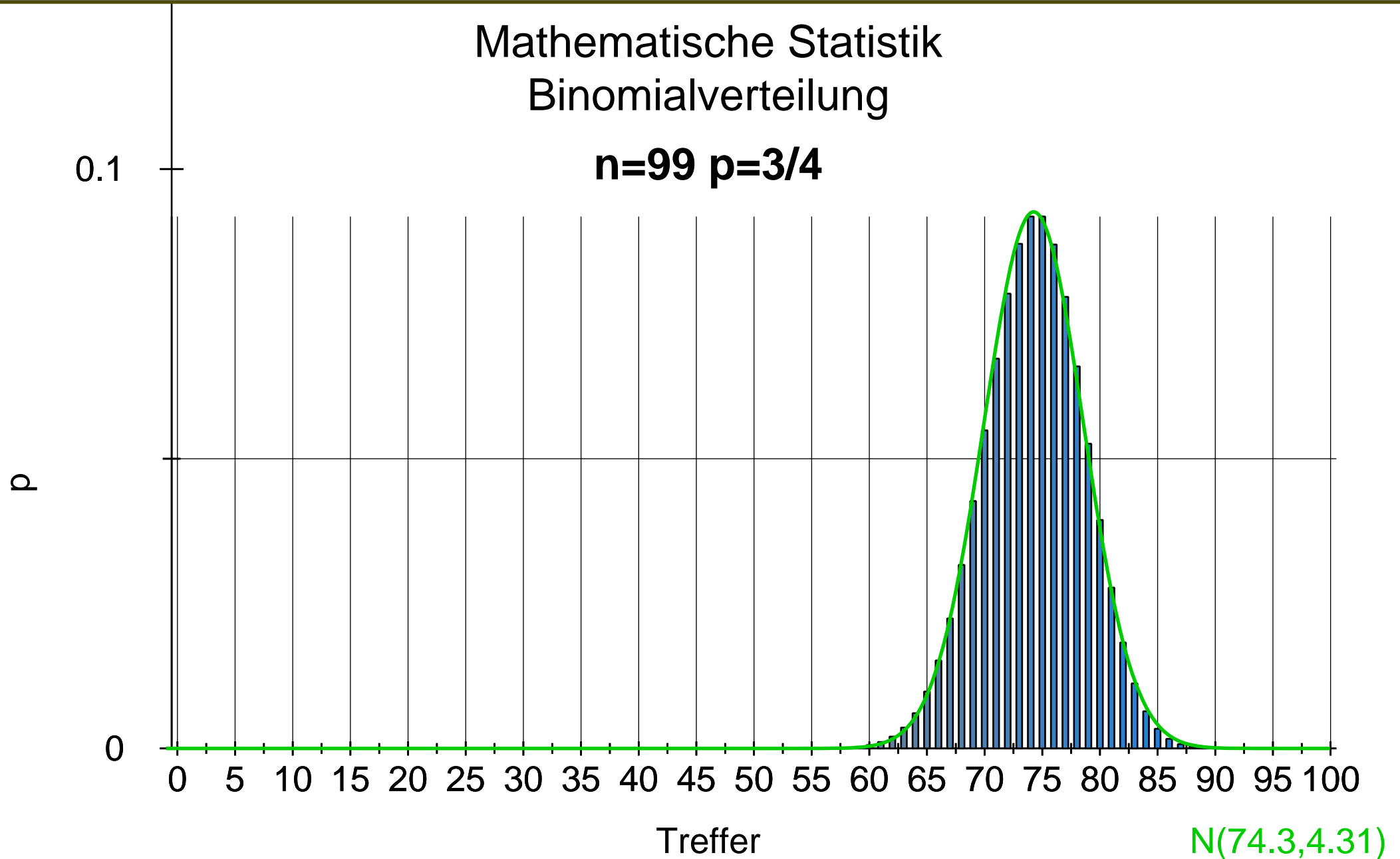


$N(74.3, 4.31)$

Mathematische Statistik

Binomialverteilung

n=99 p=3/4

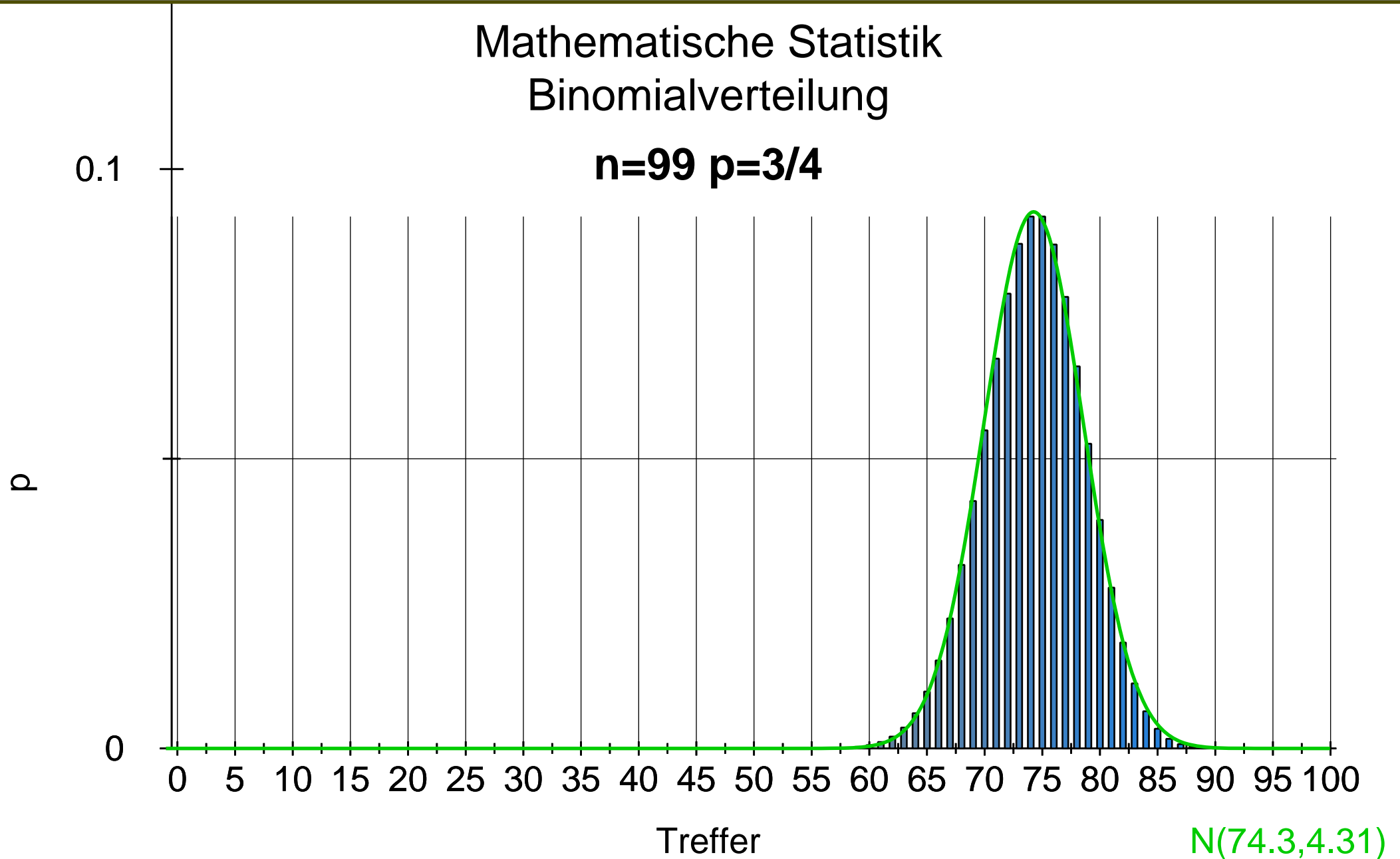


$N(74.3, 4.31)$

Mathematische Statistik

Binomialverteilung

n=99 p=3/4

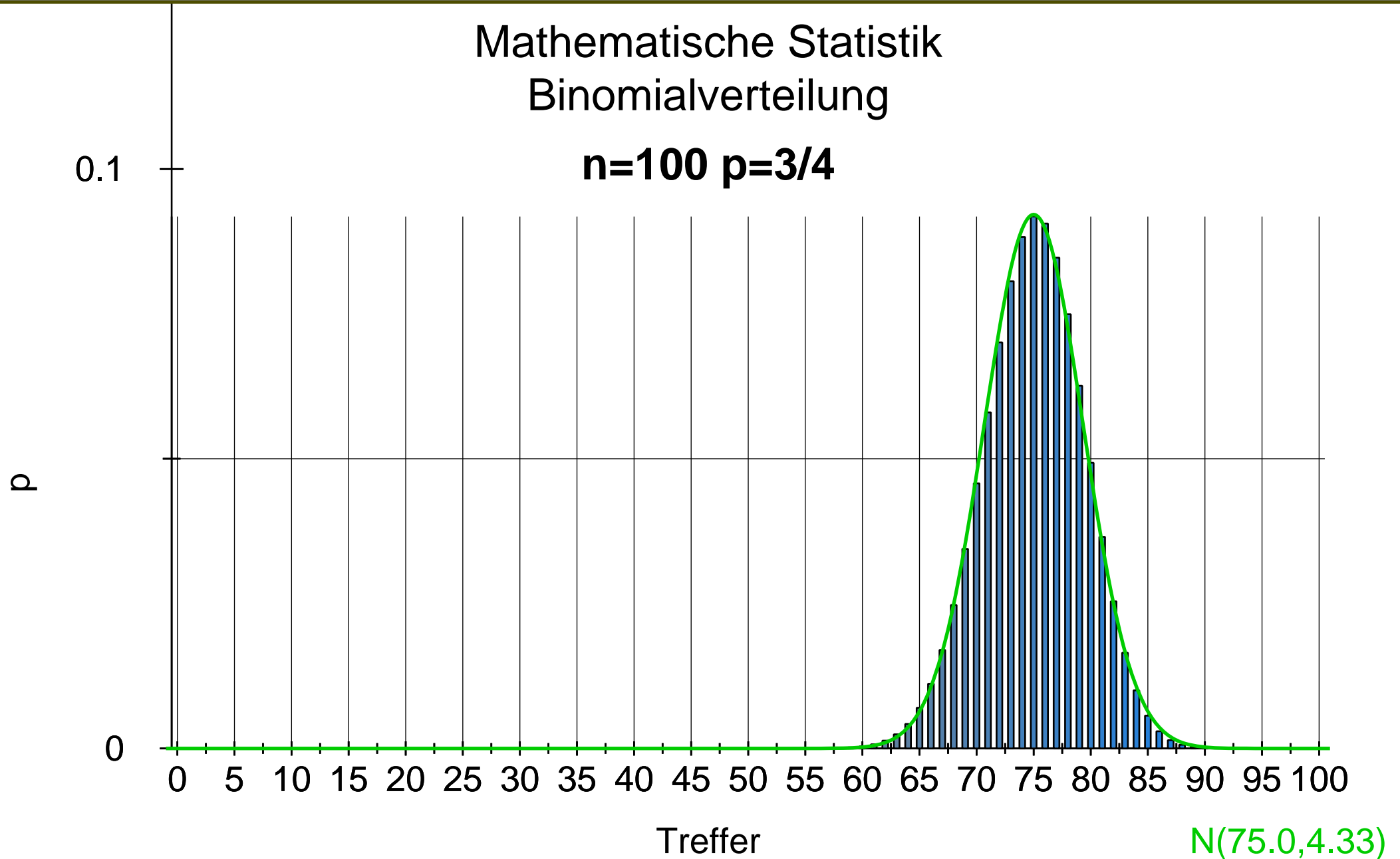


$N(74.3, 4.31)$

Mathematische Statistik

Binomialverteilung

$n=100$ $p=3/4$



$N(75.0, 4.33)$

Mathematische Statistik

Binomialverteilung

$n=100$ $p=3/4$

p

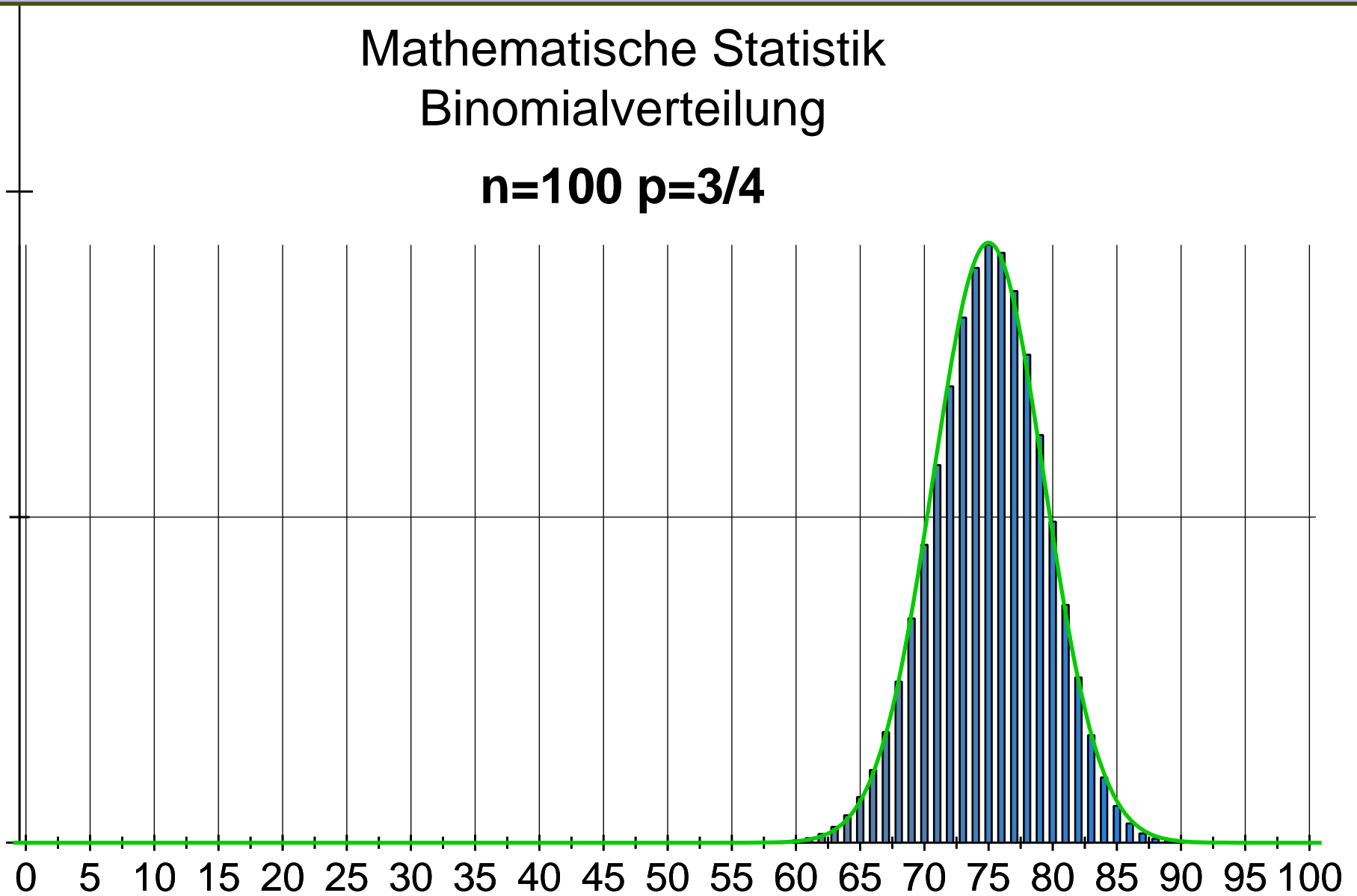
0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Treffer

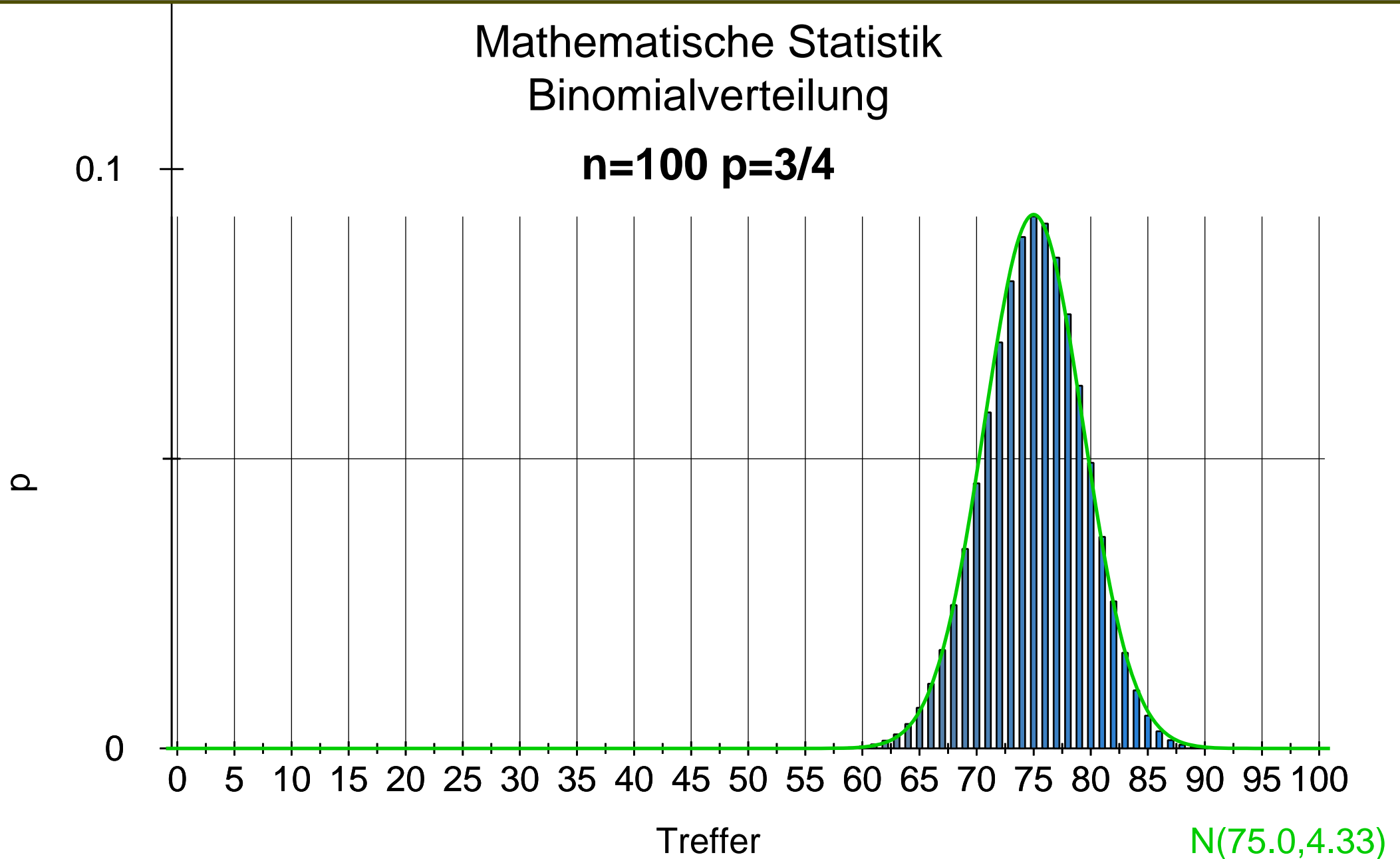
$N(75.0, 4.33)$



Mathematische Statistik

Binomialverteilung

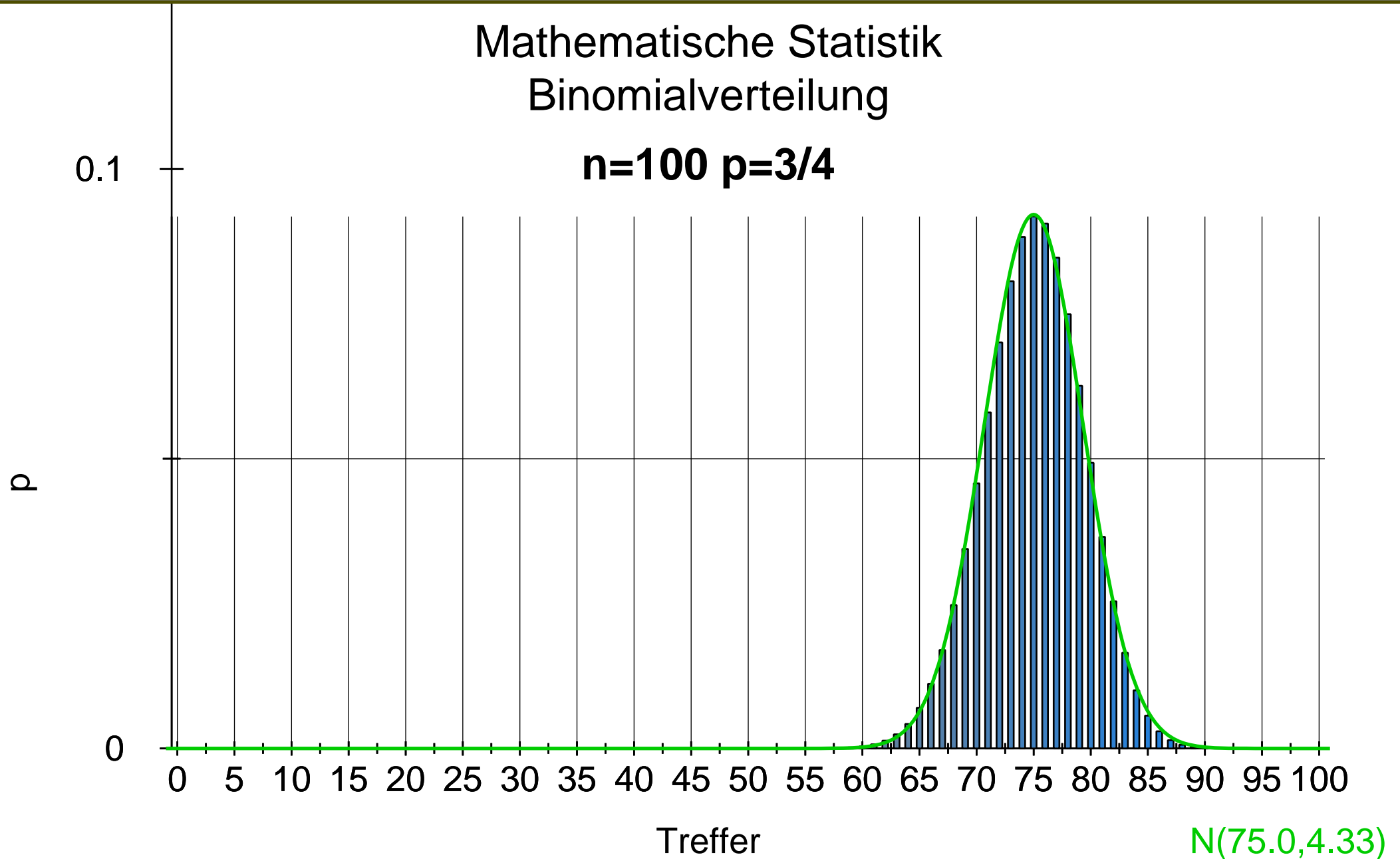
$n=100$ $p=3/4$



Mathematische Statistik

Binomialverteilung

$n=100$ $p=3/4$



Mathematische Statistik

Binomialverteilung

$n=100$ $p=3/4$

p

0.1

0

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Treffer

$N(75.0, 4.33)$

