

LAMPIRAN

**A. MENCARI PERSAMAAN REGRESI LINIER SEDERHANA UNTUK
BLOCKING SMS DENGAN JUMLAH SERVER**

no.	Jumlah Server (X)	Bmessage (Y)
1	2	0.0388
2	3	0.0131
3	4	0.0033
4	5	0.0007
5	6	0.0001
6	7	0

no.	X ²	Y ²	XY
1	4	0.001504	0.077557
2	9	0.000171	0.039227
3	16	1.08E-05	0.013132
4	25	4.32E-07	0.003287
5	36	1.2E-08	0.000658
6	49	2.45E-10	0.00011
Σ	139	0.001686	0.13397

$$Y = a + bX$$

Mencari nilai b

$$b = \frac{n(\sum xy) - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b = \frac{6 * 0,13397 - 27 * 0,0559}{6 * 139 - 139^2}$$

$$b = \frac{0,803820252 - 1,509836198}{834 - 729}$$

$$b = \frac{-0,706015946}{105}$$

$$b = -0,006723961$$

mencari nilai a

$$a = \frac{\sum y - b \sum x}{n}$$

$$a = \frac{0,0559 - (-0,006723961) * 27}{6}$$

$$a = \frac{0,237466817}{6}$$

$$a = 0,039577803$$

maka

$$Y = 0,039577803 - (0,006723961) * X$$

**B. MENCARI PERSAMAAN REGRESI LINIER SEDERHANA UNTUK
PROBABILITAS *PACKET LOSS* TERHADAPA JARAK BTS (*BASE
TRANCEIVER STATION*) DENGAN *MOBILE***

No.	Jarak (Km)	<i>Probability Packet Loss</i>			
		16QAM 1/2	16QAM 3/4	64QAM 2/3	64QAM 3/4
1	0,2	1.26046×10^{-9}	6.1446×10^{-10}	0.00290402	0.00122359
2	0,4	5.63081×10^{-8}	2.73819×10^{-8}	0.01175673	0.00492512
3	0,6	6.49663×10^{-7}	3.15258×10^{-7}	0.0290064	0.01209437
4	0,8	3.93981×10^{-6}	1.90817×10^{-6}	0.05653711	0.02347607
5	1	1.64343×10^{-5}	7.9451×10^{-6}	0.09605924	0.03973565
6	1,2	5.36781×10^{-5}	2.59043×10^{-5}	0.14918297	0.06149025
7	1,4	0.000147565	7.1088×10^{-5}	0.21745711	0.08932488
8	1,6	0.000356931	0.000171647	0.30239289	0.12380221
9	1,8	0.000782146	0.00037547	0.40548012	0.16546898
10	2	0.001584487	0.000759277	0.52819912	0.21486057

- Modulasi 16QAM 1/2

no.	Jarak (X)	16QAM ½ (Y)
1	0.2	1.26046×10^{-9}
2	0.4	5.63081×10^{-8}
3	0.6	6.49663×10^{-7}
4	0.8	3.93981×10^{-6}
5	1	1.64343×10^{-5}
6	1.2	5.36781×10^{-5}
7	1.4	0.000147565
8	1.6	0.000356931
9	1.8	0.000782146
10	2	0.001584487

no.	x ²	y ²	xy
1	0.04	1.58875×10^{-18}	2.52091E-10
2	0.16	3.1706×10^{-15}	2.25232E-08
3	0.36	4.22062×10^{-13}	3.89798E-07
4	0.64	1.55221×10^{-11}	3.15185E-06
5	1	2.70088×10^{-10}	1.64343E-05
6	1.44	2.88133×10^{-9}	6.44137E-05
7	1.96	2.17754×10^{-8}	0.000206591
8	2.56	1.274×10^{-7}	0.00057109
9	3.24	6.11752×10^{-7}	0.001407863
10	4	2.5106×10^{-6}	0.003168975
	15.4	3.27469×10^{-6}	0.00543893

$$Y = a + bX$$

Mencari nilai b

$$b = \frac{n(\sum xy) - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b = \frac{10 * 0,00543893 - 11 * 0,002945889}{10 * 15,4 - 11^2}$$

$$b = \frac{0,0543893 - 0,032404777}{154 - 121}$$

$$b = \frac{0,021984528}{33}$$

$$b = 0,000666198$$

mencari nilai a

$$a = \frac{\sum y - b \sum x}{n}$$

$$a = \frac{0,002945889 - 0,000666198 * 11}{10}$$

$$a = \frac{-0,0043823}{10}$$

$$a = -0,00043823$$

maka

$$Y = -0,00043823 + 0,000666198 * X$$

- Modulasi 16QAM 3/4

no.	Jarak	16QAM 3/4
1	0.2	6.1446×10^{-10}
2	0.4	2.73819×10^{-8}
3	0.6	3.15258×10^{-7}
4	0.8	1.90817×10^{-6}
5	1	7.9451×10^{-6}
6	1.2	2.59043×10^{-5}
7	1.4	7.1088×10^{-5}
8	1.6	0.000171647
9	1.8	0.00037547
10	2	0.000759277

no.	x ²	y ²	xy
1	0.04	3.77561E-19	1.22892E-10
2	0.16	7.49769E-16	1.09528E-08
3	0.36	9.93876E-14	1.89155E-07
4	0.64	3.6411E-12	1.52653E-06
5	1	6.31246E-11	7.9451E-06
6	1.44	6.71033E-10	3.10852E-05
7	1.96	5.0535E-09	9.95232E-05
8	2.56	2.94628E-08	0.000274636
9	3.24	1.40977E-07	0.000675845
10	4	5.76502E-07	0.001518554
Σ	15.4	7.52733E-07	0.002609315

$$Y = a + bX$$

Mencari nilai b

$$b = \frac{n(\sum xy) - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b = \frac{10 * 0,002609315 - 11 * 0,001413583}{10 * 15,4 - 11^2}$$

$$b = \frac{0,026093152 - 0,01554941}{154 - 121}$$

$$b = \frac{0,010543742}{33}$$

$$b = 0,000319507$$

mencari nilai a

$$a = \frac{\sum y - b \sum x}{n}$$

$$a = \frac{0,001413583 - 0,003514581}{10}$$

$$a = \frac{-0,002101}{10}$$

$$a = -0,0002101$$

maka

$$Y = -0,0002101 + 0,000319507 * X$$

- Modulasi 64QAM 2/3

no.	Jarak	64QAM 2/3
1	0.2	0.002904021
2	0.4	0.011756727
3	0.6	0.029006403
4	0.8	0.056537112
5	1	0.096059238
6	1.2	0.149182968
7	1.4	0.217457107
8	1.6	0.302392888
9	1.8	0.405480116
10	2	0.528199124

no.	x2	y2	xy
1	0.04	8.43334E-06	0.000580804
2	0.16	0.000138221	0.004702691
3	0.36	0.000841371	0.017403842
4	0.64	0.003196445	0.045229689
5	1	0.009227377	0.096059238
6	1.44	0.022255558	0.179019562
7	1.96	0.047287593	0.30443995
8	2.56	0.091441459	0.483828621
9	3.24	0.164414125	0.729864209
10	4	0.278994315	1.056398248
Σ	15.4	0.617804897	2.917526855

$$Y = a + bX$$

Mencari nilai b

$$b = \frac{n(\sum xy) - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b = \frac{10 * 2,917526855 - 11 * 1,798975705}{10 * 15,4 - 11^2}$$

$$b = \frac{29,17526855 - 19,78873276}{154 - 121}$$

$$b = \frac{9,38653579}{33}$$

$$b = 0,284440478$$

mencari nilai a

$$a = \frac{\sum y - b \sum x}{n}$$

$$a = \frac{1,798975705 - 3,128845263}{10}$$

$$a = \frac{-1,32986956}{10}$$

$$a = -0,132986956$$

maka

$$Y = -0,132986956 + 0,284440478 * X$$

- Modulasi 64QAM 3/4

no.	Jarak	64QAM 3/4
1	0.2	0.00122359
2	0.4	0.00492512
3	0.6	0.012094374
4	0.8	0.023476073
5	1	0.039735651
6	1.2	0.061490246
7	1.4	0.08932488
8	1.6	0.12380221
9	1.8	0.165468977
10	2	0.214860574

no.	x ²	y ²	xy
1	0.04	1.49717E-06	0.000244718
2	0.16	2.42568E-05	0.001970048
3	0.36	0.000146274	0.007256625
4	0.64	0.000551126	0.018780859
5	1	0.001578922	0.039735651
6	1.44	0.00378105	0.073788295
7	1.96	0.007978934	0.125054832
8	2.56	0.015326987	0.198083536
9	3.24	0.027379982	0.297844158
10	4	0.046165066	0.429721149
Σ	15.4	0.102934096	1.19247987

$$Y = a + bX$$

Mencari nilai b

$$b = \frac{n(\sum xy) - \sum x \sum y}{n \sum x^2 - (\sum x)^2}$$

$$b = \frac{10 * 1,19247987 - 11 * 0,736401696}{10 * 15,4 - 11^2}$$

$$b = \frac{11,9247987 - 8,100418653}{154 - 121}$$

$$b = \frac{3,824380045}{33}$$

$$b = 0,115890304$$

mencari nilai a

$$a = \frac{\sum y - b \sum x}{n}$$

$$a = \frac{0,736401696 - 1,274793348}{10}$$

$$a = \frac{-0,5838391653}{10}$$

$$a = -0,05838391653$$

maka

$$Y = -0,05838391653 + 0,115890304 * X$$