The method of maximum likelihood gives the same parameter estimates as the method of least squares for any measurement noise distribution.
1 / 1 point

True

False

Correct
Correct! The noise must be from the Gaussian family.
2.
Question 2
The product of several Gaussian PDFs with identical variances is also Gaussian.
1 / 1 point

True

False

Correct
Correct! We used this fact to derive the connection between maximum likelihood and least squares.
3.
Question 3
The least squares criterion is robust to outliers.
1 / 1 point

True

False

Correct
Correct! Least squares is particularly sensitive to outliers due to the use of squared errors!
4.
Question 4
For a scalar Gaussian random variable, what is the form of the full log likelihood function?

1 / 1 point

- \frac {1}{2} \log (2 \pi) - \frac { 1 } { 2 } \log \left(\sigma ^ { 2 } \right) - \frac { 1 } { 2 \sigma ^ { 2 } }\left(x - \mu \right) ^ { 2 }

$-$

2 1	

$\log(2\pi)-$

$\log(\sigma$

$)-$

2

$(x-\mu)$

- \frac {1}{2} \log (2 \pi) + \frac { 1 } { 2 } \log \left(\sigma \right) - \frac { 1 } { 2 \sigma ^ { 2 } }\left(x - \mu \right) ^ { 2 }

$-$

$\log(2\pi)+$

$\log(\sigma)-$

2

$(x-\mu)$

Correct

Correct!

5.

Question 5

True or False,

\mathrm{argmin}_{~x~} f(x) = \mathrm{argmax}_{~x~} f(-x) argmin

$f(x)$=argmax

$f(-x)$.

1 / 1 point

True

False

Correct

Correct!

\mathrm{argmin}_{~x~} f(x) = \mathrm{argmax}_{~x~} -f(x)

argmin

$f(x)$=argmax

$-f(x)$.