## Exercise 4

$\qquad$
Mailbox $\qquad$

## Solve:

1. $\ln 3.4=$
2. $e^{4.2}=$
3. $\ln \left(e^{10.7}\right)=$
4. $e^{(\ln 10.7)}=$
5. $\ln \left(4^{3}\right)=$
6. $\ln (21 \times 4)=$
7. $\ln \left(\frac{3}{4}\right)=$

## Graph:

8. $y=2+2 e^{2 x}$
9. $y=3 \ln (x+5)$

Solve the following equations and check your solutions:
10. $\ln (x+5)=2$
11. $e^{2 x-3}+5=10$
12. $\ln \left(1+e^{-3 x}\right)=7$
13. $5+\exp (-2 x)=\ln (3)$
14. (Optional) Here is a table relating vaccination rates and disease-free rates for one year:

|  |  | Vaccinated |  |
| :--- | :--- | ---: | ---: |
|  |  | Yes | No |
| Disease- | Yes | 77 | 13 |
| Free | No | 8 | 2 |

Estimate the odds ratio for the association between vaccination and disease-free rates and the $95 \%$ confidence interval for the odds ratio.

