

Please work in teams of 4. At the end of the tutorial every team hands in **one** set of solutions with everybody's name and student number PRINTED, and everybody's signature.

Don't worry if you can't finish all the questions; what you haven't finished in class, finish at home. The main goal of the tutorial is to learn by working together. The tutorial problems are intended to be an enjoyable learning experience, **not** a competition. Anyone regularly participating in tutorials can expect a reasonable grade for the tutorial work.

Do **NOT** divide up the problems between you and work on them separately. Groups doing this will be marked in a tougher fashion. You and your group should work **together** on all problems, sharing insights and difficulties as you progress.

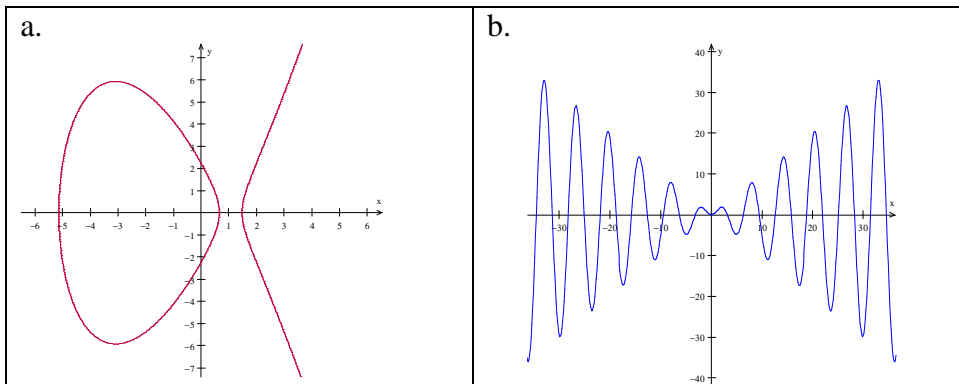
Your TA is here to help you – don't be shy to ask questions. If I'm around, do the same with me!

The solution will be posted shortly in WebCT.

1. **Simplify** as much as possible

a. $(-32)^{2/5}$ b. $-32^{2/5}$ c. $(\sqrt[7]{8x^3})^{7/3}$ d. $\frac{a-b}{3b} + \frac{1}{a}$ e. $\left(\frac{2ab^{-1}}{6a^2b^{-3}}\right)^{-2}$

2. Which of the following is the graph (or graphical representation) of a function? Explain.



c. $\{(0, -1), (0, 1), (2, -3), (2, 3), (4, -5), (4, 5)\}$

d. $\{(0, -1), (1, -1), (2, -2), (3, -2), (4, -3), (5, -3)\}$

3. **Determine the equation of a line** that passes through the point $(-4, -4)$ and is parallel to the line $2y + 3x - 6 = 0$.

4. **Determine the domain** of the following functions, whose rule is given by:

a. $f(x) = 3x^3 - 5x + 12$	b. $f(x) = \ln(3x + 8)$
c. $f(x) = \frac{2x^2 + 5}{4 - 12x} - \sqrt{x + 1}$	d. $f(x) = \sqrt[4]{x^2 - 1} + \sqrt{2 - x}$

5. **Solve for x. For the equalities, express the solution as an interval or a union of intervals.**

a. $3x - 6 \leq 7(2 + x)$	b. $ 2x + 5 = 9 - x$	c. $\frac{1}{x} \geq -4$
d. $ x - 3 > 2$	e. $\frac{3 - 2x}{ x - 3 } \geq -4$	