Exam exercises

Note: Problem 1d) and the Optional problems: Save these for after you have we have covered definite integrals and area in class (or at least until after you have read about this yourself).
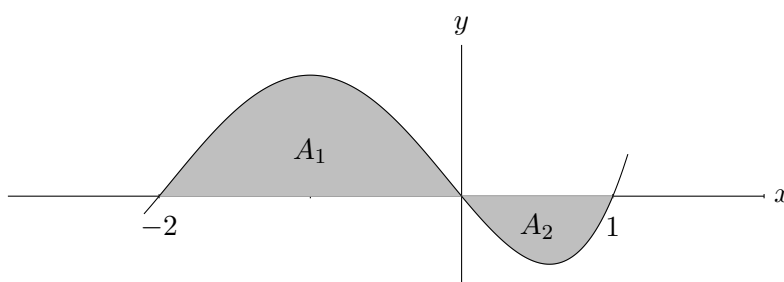
Problem 1.
Compute the following integrals:

a) **(6p)** $\int 30x\sqrt{x}\ \mathrm{d}x$ b) **(6p)** $\int xe^{-x}\ \mathrm{d}x$ c) **(6p)** $\int \dfrac{6-3x}{4-9x^2}\ \mathrm{d}x$

d) **(6p)** The graph of a function f is shown in the figure above. Determine the area A_1 when you are told that the area $A_2 = 22/15$ and that

$$\int_{-2}^{1} f(x)\ \mathrm{d}x = \frac{18}{5}$$

For a complete solution manual, see Eksamen MET11807 12/2019, Oppgave 1.

Optional:

| Norwegian textbook [E]: | Eriksen, *Matematikk for økonomi og finans* |
| Norwegian exercise book [O]: | Eriksen, *Matematikk for økonomi og finans - Oppgaver og Løsningsforslag* |

| Exercises: | [E] 5.6.1 - 5.6.2, 5.6.4 - 5.6.5 |
| Solution manual: | See [O] Ch. 5.6 |