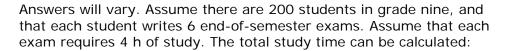
CHAPTER 1 Mathematical Processes 1.3 Focus on Connecting Making Connections

Example:

- **a)** Estimate the time spent by grade 9 students in studying for end-of-semester exams.
- **b)** A thunderstorm over metropolitan Toronto deposited 3 cm of rain on the city. Estimate the number of litres of water that rained down on Toronto during the storm.

Solution:

a) Estimate the time spent by grade 9 students in studying for end-of-semester exams.





$$200 \times 6 \times 4 = 4800 \text{ h}$$

b) Use a map or the Internet to determine that metropolitan Toronto approximately covers a rectangle measuring about 30 km by 15 km. The volume of water can be calculated:

$$V = I \times w \times h$$

- $= 30 \times 1000 \times 100 \times 15 \times 1000 \times 100 \times 3$
- $= 405 000 000 000 000 cm^3$

Divide by 1000, since $1000 \text{ cm}^3 = 1 \text{ L}$, to obtain the number of litres: $405\ 000\ 000\ 000\ L$ or $405\ billion\ litres$.

Practice:

1. The gross national debt in the USA in 2006 was about \$10 trillion. How much was each American's share of this debt?



- 2. Sandra's father baked some cupcakes, and brought a plate to Sandra and her two friends. Sandra ate $\frac{1}{6}$ of the cupcakes on the plate, Kumar ate
- $\frac{1}{3}$, and Elzbieta ate $\frac{1}{4}$. If there were 3 cupcakes left over, how many were on the plate to begin with?

Answers:

- **1**. about \$30 000
- **2**. 12