"The Nine Chapters on the Mathematical Art" Contest (NCC) 2012 ©

## Student Name:

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1. In a triangle $\mathrm{ABC}, \mathrm{AB}=0.75 \mathrm{~m}$ and $\mathrm{BC}=3.20 \mathrm{~m}$. Find the length of the third side given that it is a whole number of metres.

Answer: $\qquad$
2. If six campers can dig six holes in six hours, then how many hours does it take twelve campers to dig twelve holes? (Assume that each camper digs at the same rate.)

Answer: $\qquad$
3. Flora and Jeremy can build a house together in 2 hours. If Flora can build the same house alone using only 4 more hours, how long would it take Jeremy to build the same house if he worked alone?

Answer: $\qquad$
4. Kevin has a bucket of water. The bucket and the water weigh 13 kg in total. After you pour half of the water out, the bucket and the water weigh 8 kg . How much does the bucket weigh by itself?

Answer: $\qquad$
5. What is the smallest 7 digit number that is divisible by 11 ?

Answer: $\qquad$
6. There is a deck of 52 cards, numbered 1 through 52 . Alice is dealt 4 cards randomly, while Bob is dealt 1 . What is the probability that the largest of the numbers dealt went to Alice?

Answer: $\qquad$
7. The sum of 5 consecutive numbers is S . If $x$ is the smallest number, what is the value of S $-5 x$ ?

Answer: $\qquad$
8. Some numbers are written on the blackboard. Each number is half of the sum of the rest of the numbers. How many numbers are written on the board?

Answer: $\qquad$

