



University of Waterloo
Faculty of Mathematics



Centre for Education in
Mathematics and Computing

Grade 6 Math Circles

March 23, 2011

Gauss Contest Preparation

[Gauss7 2009 Q6]

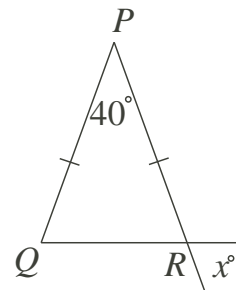
The temperature in Vancouver is 22°C . The temperature in Calgary is 19°C colder than the temperature in Vancouver. The temperature in Quebec City is 11°C colder than the temperature in Calgary. What is the temperature in Quebec City?

- (A) 14°C (B) 3°C (C) -8°C (D) 8°C (E) -13°C

[Gauss7 2008 Q13]

In the diagram, $\triangle PQR$ is isosceles. The value of x is

- (A) 40 (B) 70 (C) 60 (D) 30 (E) 110



[Gauss7 2007 Q17]

To rent a kayak and a paddle, there is a fixed fee to use the paddle, plus a charge of \$5 per hour to use the kayak. For a three hour rental, the total cost is \$30. What is the total cost for a six hour rental?

- (A) \$50 (B) \$15 (C) \$45 (D) \$60 (E) \$90

[Gauss7 2006 Q23]

In the addition of two 2-digit numbers, each blank space, including those in the answer, is to be filled with one of the digits 0, 1, 2, 3, 4, 5, 6, each used exactly once. The units digit of the sum is

- (A) 2 (B) 3 (C) 4 (D) 5 (E) 6

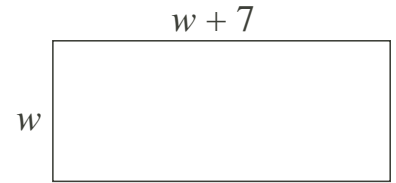
$$\begin{array}{r}
 \boxed{A} \boxed{B} \\
 + \boxed{C} \boxed{D} \\
 \hline
 \boxed{E} \boxed{F} \boxed{?}
 \end{array}$$

[Gauss7 2005 Q23] Using an equal-armed balance, if $\square\square\square\square$ balances $\circ\circ$ and $\circ\circ\circ$ balances $\triangle\triangle$, which of the following would not balance $\triangle\circ\square$?

- (A) $\triangle\circ\square$ (B) $\square\square\square\triangle$ (C) $\square\square\circ\circ$ (D) $\triangle\triangle\square$ (E) $\circ\square\square\square\square$

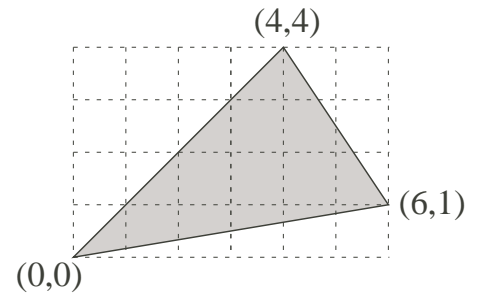
The length of a large rectangular room is 7 metres more than its width.
If the perimeter is 34 metre, then length of the room, in metres is

- (A) 5 (B) 13.5 (C) 19 (D) 12 (E) 6.75



The area of the shaded triangle, in squared units is

- (A) 12 (B) 24 (C) 9 (D) 10 (E) 7



Wanna Pizza makes square slices of pizza. Their single slices are 10cm by 10cm. Two single slices can feed a person. How many people can their Mega Party Pizza feed if the pizza's dimension is 1m by 1m?

- (A) 100 (B) 500 (C) 50 (D) 200 (E) 1000

PUBLICATIONS

Please see our website <http://cemc.uwaterloo.ca> for information on publications which are excellent resources for enrichment, problem solving and contest preparation.

For more past contests and solutions, please visit http://www.cemc.uwaterloo.ca/contests/past_contests.html