

# Grade 8

## EXTRA CHALLENGES - SET VI

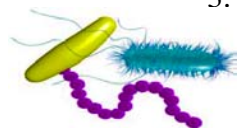
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1. An elementary school decides to have a summer dance. A single ticket to the dance is \$5. The decorations for the dance cost \$150, the deejay costs \$100, and the beverages cost \$80. If 80 students purchase tickets to the dance will the summer dance committee have a profit or loss? Explain.

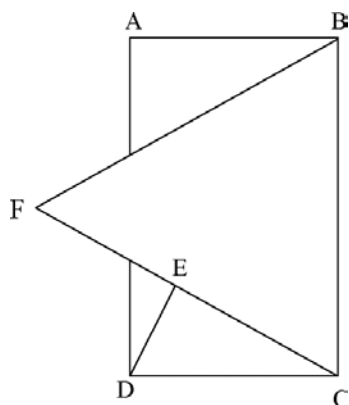
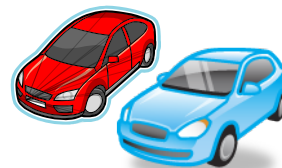


2. a. Evaluate  $1 + 2 + 3 + 4 + \dots + 100$ .  
b. Evaluate  $50 + 51 + 52 + 53 + 54 + \dots + 100$ .



3. A population of bacteria on a petri dish doubles the surface area they cover every hour. The bacteria covered the entire petri dish in eight hours. How long did it take for the bacteria to cover one-eighth of the petri dish?

4. Two cars leave a rest stop at the same time. The red car travels due north at an average speed of 90 km/h. The blue car travels due east at an average speed of 120 km/h. After four hours, how far apart are the two cars?



5. In the diagram, ABCD is a rectangle and BFC is an equilateral triangle. AB is 6 cm long and BC is 12 cm long. Also, E is the midpoint of FC. Calculate  $\angle CED$ .

Don't forget to try these past contests! Go to [www.wiredmath.ca](http://www.wiredmath.ca) for the link.



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**Past Gauss Contests**

[http://www.cemc.uwaterloo.ca/contests/past\\_contests.html#gauss](http://www.cemc.uwaterloo.ca/contests/past_contests.html#gauss)