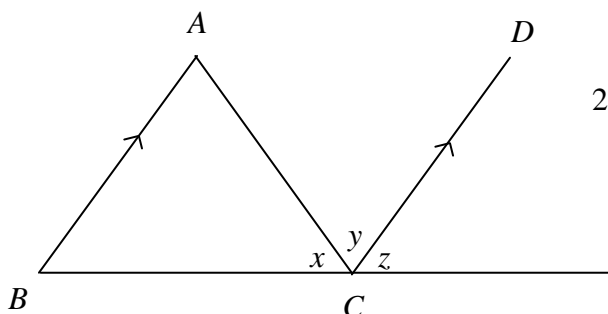


Grade 8

EXTRA CHALLENGES - SET I

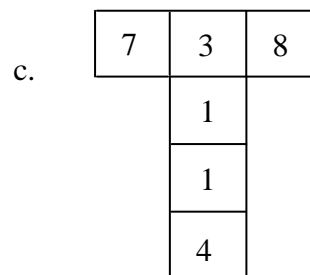
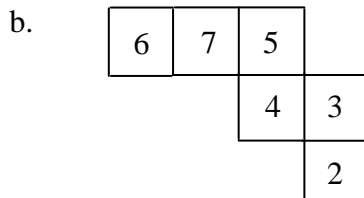
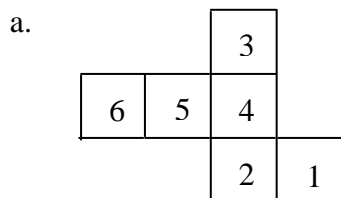
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1. Laura found an old lamp in the desert and accidentally freed a genie. To show his gratitude, the genie offered Laura either one million dollars or one dollar to begin and he would double the amount he gave each day for thirty days. Which offer should Laura take?



2. a) Show that $\angle BAC = y$.
b) Show that $\angle ABC = z$.
c) Using your results from a) and b) prove that the sum of the interior angles of any triangle must be 180° .

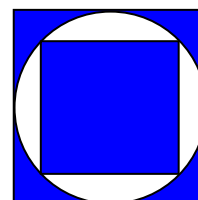
3. In a cube, three faces meet at every vertex. If the numbers on the three faces are multiplied, then which net produces the cube with the largest product at one vertex?



4. Timmy makes some fruit punch for his friends. In the pitcher, the ingredients used are orange juice, pineapple juice, cranberry juice, and water. He uses twice as much pineapple juice as cranberry juice, and equal parts of orange juice and pineapple juice. If water comprises $\frac{1}{8}$ of the total volume in the pitcher, what volume of cranberry juice is in a 320 mL glass of fruit punch?



5. In the diagram, a circle is inscribed in a square with sides of 6 metres and then a square is inscribed in the circle. What is the area of the shaded region? 6



Don't forget to try these past contests! Go to www.wiredmath.ca for the link.



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