Hidden numbers

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SDFAS
SAN DIEGO FRENCH ★ AMERICAN SCHOOL

1. The first of three consecutive integers (*trois entiers consécutifs*) is x. What are the other two?

2. What is the sum of the three numbers in problem 1?

3. How many vertices (*sommets*) do c cubes have?

4. Pick a number between 1 and 100. Add 25 to your number. Now multiply the result by 4. Subtract your original number from the result, and then subtract 100 more. Tell me the result and I will guess your original number. Explain how you would guess if it were I who picked the number.

5. Let v be the number of vertices of a cube; let e be the number of edges (*arêtes*); and let f be the number of faces (*faces*). What is $v - e + f$?

6. Answer question 5 for a tetrahedron, and for an octahedron. Can you guess the result for a soccer ball without calculating it?

7. Cyrus is 3 years older than Noah. Together their ages add up to 37. How old is Cyrus?

8. Eleanor's flock of sheep has 80 legs. How many sheep are in her flock?

9. Alex draws a picture with 3-legged monsters chasing dogs. There are twice as many monsters as dogs. Altogether Alex draws 40 legs. How many dogs are in his picture?

10. François' class has 17 students. If it had twice as many girls, it would have 24 students. How many boys are in the class?