



Gordon Burgin's Puzzles

August 2021 challenge

1. My favourite number has two digits and an odd number of divisors. The sum of the digits is 13. What is my favourite number?
2. Washington High School randomly selected freshman, sophomore, junior, and senior students for a survey about potential changes to next year's schedule. Of students selected for the survey, $\frac{1}{4}$ were freshmen and $\frac{1}{3}$ were sophomores. Half of the remaining selected students were juniors. If 336 students were selected for the survey, how many were seniors?
3. The diameter of the cutting wheel on a manual can opener is $\frac{3}{4}$ of an inch and the diameter of a can of peaches is $2\frac{1}{2}$ inches. How many times will the cutting wheel turn when opening the can?
4. The area of the floor of a rectangular room is 315 sq. feet. One wall is a rectangle of 120 sq. feet, and the other wall is a rectangle of 168 sq. feet. The ceiling and the floor are parallel, how many cubic feet are in the volume of the room? (Note: all dimensions are whole numbers.)