

Math Exam – PrelB 3.AB

GCD & CRT

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1. Find the *greatest common divisor* of 8575 and 280 using the *Euclidean algorithm*. Write down your calculations.
2. Determine *whether the following system of congruences has a solution* and, if it does, find *the smallest solution*. Write down your calculations.

$$x \equiv 1 \pmod{8}$$

$$x \equiv 3 \pmod{15}$$

$$x \equiv 2 \pmod{19}.$$