

Math Exam – PreIB 3.AB

GCD & CRT

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February 19, 2024

1. Find the *greatest common divisor* of 2275 and 2695 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.

$$x \equiv 1 \pmod{4}$$

$$x \equiv 3 \pmod{7}$$

$$x \equiv 9 \pmod{13}.$$