

Assignment for Tuesday, 1/30

I Exercises from book:

Section 2.4 \rightarrow 2d, 4bc, 5, 6, 10c, 11

Section 2.5 \rightarrow 2b, 3bc, 6

II Supplementary Exercises:

(7) Use exercise 205 (section 2.3) to show that
$$\gcd(a^2, b^2) = (\gcd(a, b))^2$$

(8) Let $a, b, c, d \in \mathbb{Z}^+$ with $b \neq d$.
Show that if $\gcd(a, b) = 1$ and $\gcd(c, d) = 1$
then $\frac{a}{b} + \frac{c}{d}$ is not an integer.

(9) Find the smallest ^{positive} integer n such that
the equation
$$10x + 11y = n$$

has exactly nine solutions in non-negative integers

(10) What is the smallest positive rational
number that can be expressed in the form
$$\frac{x}{30} + \frac{y}{36}$$

with $x, y \in \mathbb{Z}$?