

Hist Notes 4

extend office hours 5-7pm ✓
b/c I'll be proctoring NT?

1. For which values of r ~~can it~~ does the equation $x^2 = 7y + r$ have a solution? ~~What are these~~ (mod 7)
2. Find all solutions to the Diophantine equation $24x + 138y = 18$.
3. Let P be the parabola $y = x^2$. At what point does the line normal to P at (c, c^2) meet the y -axis? Why is this the same point at which the normal line at $(-c, c^2)$ meets the y -axis?
4. Find the continued fraction expansion of
(i) ~~7/24~~ $7/24$ (ii) $7/11$
5. Given a decreasing arithmetic progression $\{a_n\}_{n \in \mathbb{N}}$ such that $a_{n+1} - a_n = d \quad \forall n \in \mathbb{N}$, then
$$\sum_{i=1}^n a_i - \sum_{i=1}^n a_{n+i} = -n^2 d.$$



• Midterm Moved!

• Office Hours 5-Whenever @ Pierce Hill