A couple of years ago, when I started at my company I worked in IT Asset Management. Every summer, we get about 250 interns that start. So when it’s that time of year, we hire temporary contractors to help fulfill the orders of new employees.

This was a while ago so I don’t have the data from that department anymore. I have come up with some numbers from what I can remember.

From what I remember we were looking a little over 3 days of total work remaining for our contractors. We wanted to know what was the maximum amount of work they could do in the remaining amount of time. Contractors were assigned at the beginning to each area we cover when fulfilling orders.

When fulfilling new employee orders, our group covered three items: laptop, mobile device, and peripherals (keyboard, mouse, docking station). There are also three components of fulfilling an order: imaging, software installation, and packaging/actual installation.

Laptop = 2 hours for imaging, 1 hour for software installation, ½ an hour for packaging

Mobile Device = 1 hour for software installation, ½ an hour for packaging

Peripherals = ½ an hour for packaging

Imaging = x

Software Installation = y

Packaging = z

For ease of calculation, I’ve converted the numbers above into minutes.

Echelon Method

120x + 60y + 30z = 1000 minutes

60y + 30z = 400 minutes

30z = 200 minutes

30z = 200

/30 /30

z = 20/3

60y + 30 (20/3) = 400

y = 10/3

120x + 60(10/3) + 30(20/3) = 1000

x = 5

**(5, 10/3, 20/3)**

Gauss-Jordan Method

120x + 60y + 30z = 1000 minutes

60y + 30z = 400 minutes

30z = 200 minutes

-1R2 + R1 -> R1

|  |  |  |  |
| --- | --- | --- | --- |
| 120 | 60 | 30 | 1000 |
| 0 | 60 | 30 | 400 |
| 0 | 0 | 30 | 200 |

-1R2 + R3 -> R2

|  |  |  |  |
| --- | --- | --- | --- |
| -120 | 0 | 0 | -600 |
| 0 | 60 | 30 | 400 |
| 0 | 0 | 30 | 200 |

|  |  |  |  |
| --- | --- | --- | --- |
| -120 | 0 | 0 | -600 |
| 0 | -60 | 0 | -200 |
| 0 | 0 | 30 | 200 |

**x = 5**

**y = 10/3**

**z = 20/3**