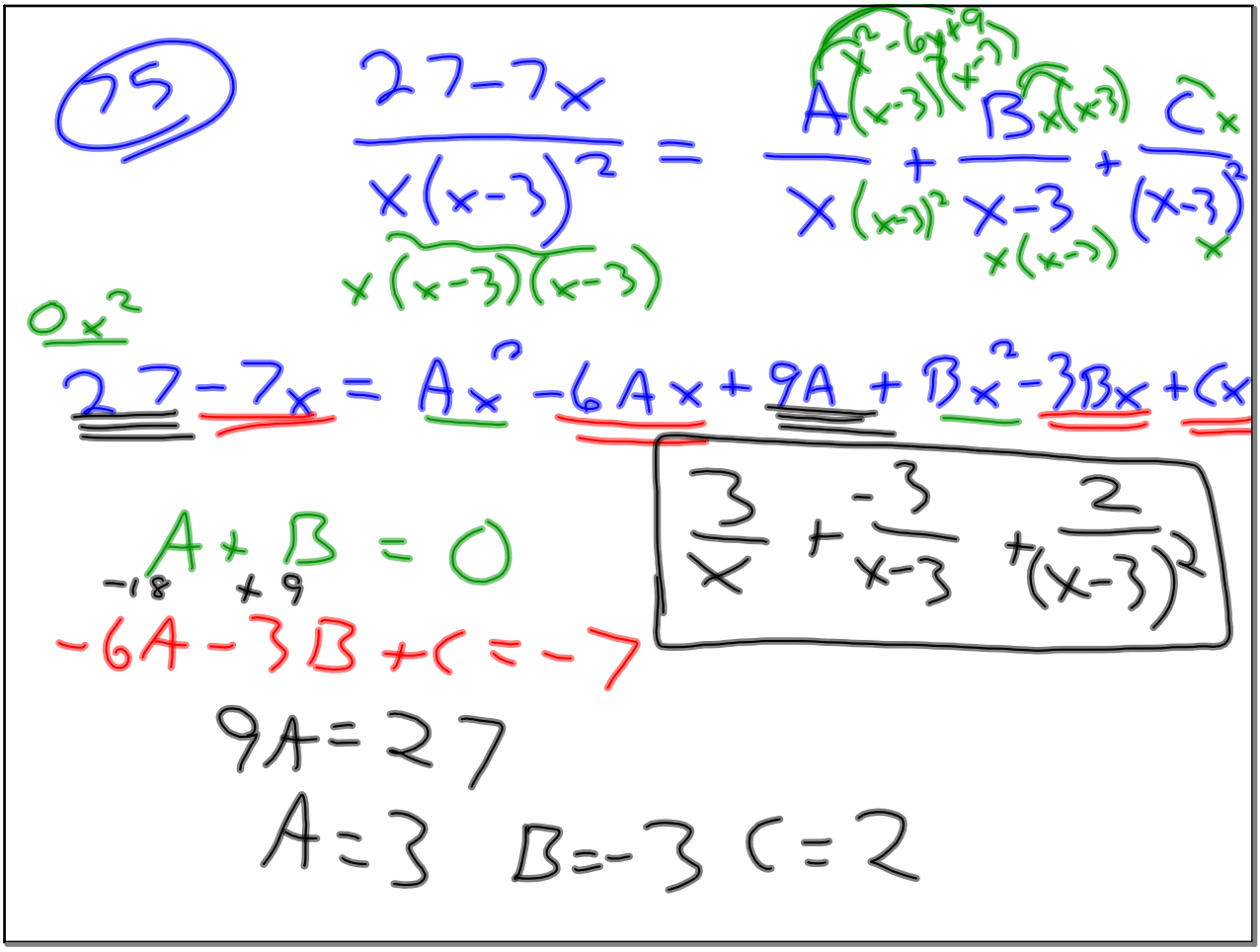


7-4 SOLVING SYSTEMS OF EQUATIONS USING MATRICES

Rules:
1. We may interchange two rows
2. We may multiply a row by a non-zero number
3. We may add a multiple of one equation to another

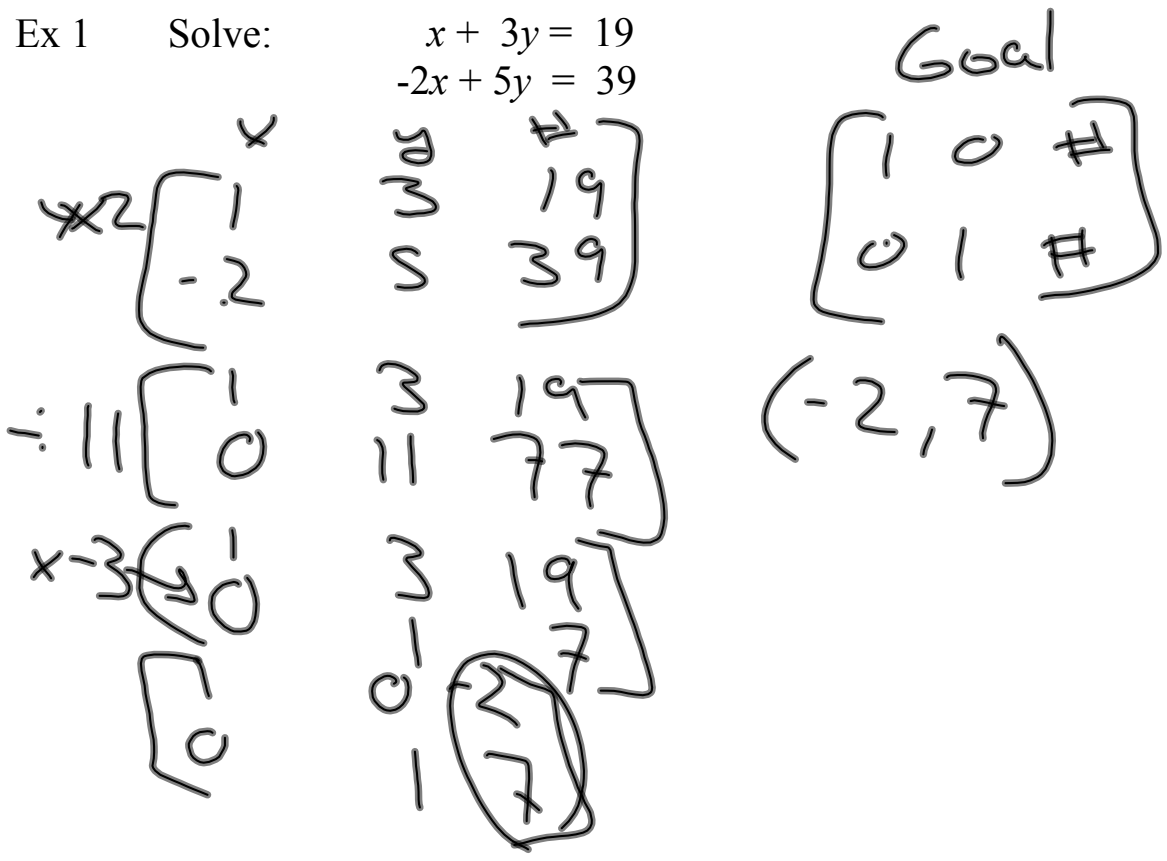
Carl Friedrich Gauss
1777-1855

Carl Friedrich Gauss
1777-1855, Brunswick, Germany

Gauss showed mathematical brilliance as early as age three when he corrected his father's payroll calculations. In school, he solved the teacher's problem to add all integers from 1 to 100. After formal school, Gauss attended Caroline College at the expense of the Duke of Brunswick. In 1796, Gauss made his first mathematical breakthrough by proving the possibility to construct a heptadecagon with a straight edge and compass. Gauss was awarded a Ph.D. from the University of Helmstedt for his dissertation proving the fundamental theorem of Algebra. Gauss calculated exactly when and where an asteroid would reappear, and when it was proven true he accepted a position as astronomer at the Gottingen Observatory. Gauss even worked with magnetism, mechanics, acoustics, and optics. With his construction of the telegraph, he made his mark as a physicist as well.

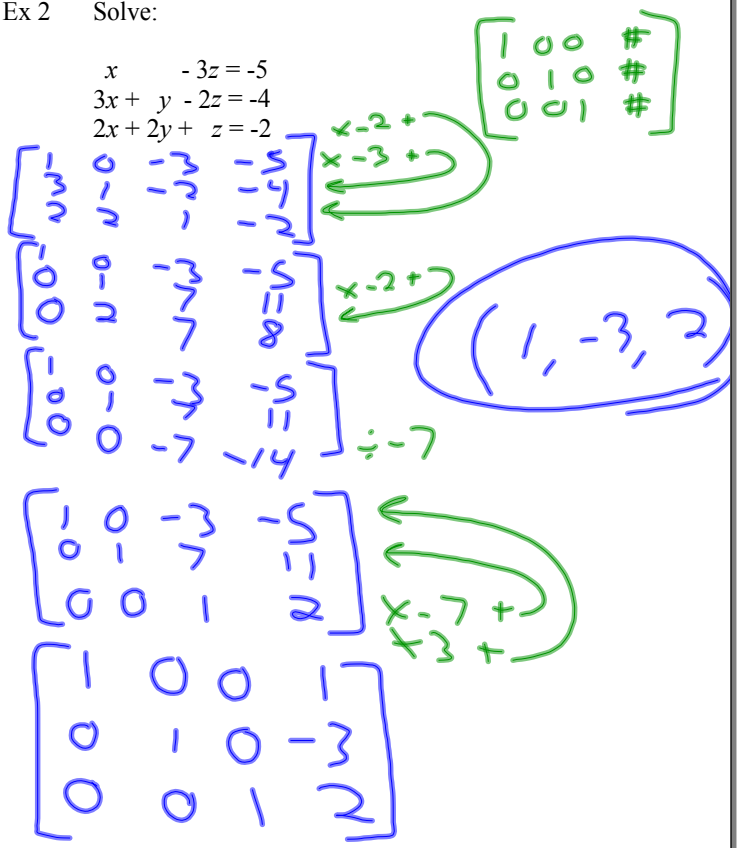
Major Works: Disquisitiones Arithmeticae

Ex 1 Solve: $x + 3y = 19$
$-2x + 5y = 39$



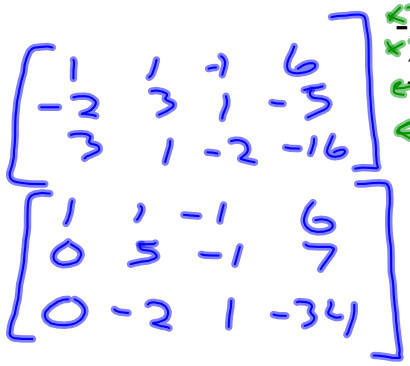
Ex 2 Solve:

$x - 3z = -5$
$3x + y - 2z = -4$
$2x + 2y + z = -2$



Ex 3 Solve:

$x + y - z = 6$
$-2x + 3y + z = -5$
$3x + y - 2z = -16$



HOMEWORK
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