## Matrix Unit: Exeter Problems

| Date | Problem | Problem Notes |
| :---: | :---: | :---: |
|  | 3:13.2 | Intro to idea of matrix |
|  | 3:13.3 | Meaning of matrix multiplied by vector. Row \& column vectors defined. |
|  | 3:13.4 | Matrix multiply introduced. |
|  | 3:14.2 | Meaning of matrix multiply |
|  | 3:14.3 | Meaning of matrix multiply |
|  | 3:14.8 | Multiply 2x2 |
|  | 3:15.5 | Multiply 2x2 |
|  | 3:15.9 | Dimension constraints on matrix multiply. |
|  | 3:22.3 | Matrix inverse with GDC |
|  | 3:22.6 | Matrix inverse with GDC |
|  | 3:22.7 | Matrix inverse with GDC |
|  | 3:23.10 | Matrix application |
|  | 3:23.11 | Matrix application |
|  | 3:24.5 | Review solving $3 \times 3$ |
|  | 3:25.6 | $3 \times 3$ systems using matrices |
|  | 3:25.7 | Continuation of 3:25.6 |
|  | 3:26.6 | Non-commutative nature of matrix multiply |
|  | 3:26.12 | Solve $3 \times 3$ system with inverses |
|  | 3:27.7 | Solve systems with calculator |
|  | 3:30.4 | Manual matrix multiplies. |
|  | 3:30.5 | What's required for commutativity? |
|  | 3:33.6 | $3 \times 3$ word problem to solve with matrices. |
|  | 3:36.3 | 3x3 word problem to solve with matrices. |
|  | 3:38.2 | Matrices can be used for transformations. |
|  | 3:48.2 | Notation discussion |
|  | 3:75.6 | Matrix multiplication is associative. |

