**Presentations01**

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| Describe the Babylonian technique for finding the square root. Do an example. |  |
| Describe the Egyptian technique for finding the square root. Do an example. |  |
| Describe the Egyptian technique for division. Do an example. |  |
| Express 4/5 in Egyptian format. |  |
| Argue that every rational number between 0 and 1 can be expressed as a finite sum of reciprocals of positive integers. Give an algorithm to do this. |  |
| Add 4/5 and 3/4 using the Egyptian format. |  |
| Select two problems from the Rhind papyrus to solve. |  |
| Select two problems from the Moscow papyrus to solve. |  |
| Prove that vertical angles are congruent. |  |
| Prove that an angle inscribed in a semi-circle is a right angle. |  |
| Give a simple proof of the Pythagorean theorem. |  |
| Find the formula for the nth triangular number. |  |
| Find the formula for the nth pentagonal number. |  |
| Prove that the square root of 2 is irrational. |  |
| Prove that the square root of 3 is irrational. |  |
| Discuss and explain Zeno’s Achilles and the Tortoise ‘paradox.’ Why is it a ‘paradox’? |  |
| What were Zeno’s paradoxes? What was their purpose? |  |
| Prove that there are only five Platonic solids. |  |
| With compass and straight edge: bisect an angle. |  |
| With compass and straight edge: square the equilateral triangle. |  |
| With compass and straight edge: duplicate the square. |  |
| With compass and straight edge: construct a regular pentagon. |  |
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