***The Number Devil* – Reading Notes Ch. 11**

Take notes as you read chapter 11.

**1. Use patterns with Hopping numbers to show why everything with**

**exponent of zero is 1!**

|  |  |
| --- | --- |
| **25** | **32** |
| **24** |  |
| **23** |  |
| **22** |  |
| **21** |  |
| **20** |  |

|  |  |
| --- | --- |
| **35** | **243** |
| **34** |  |
| **33** |  |
| **32** |  |
| **31** |  |
| **30** |  |

**2. When you hop with one the answer is always \_\_\_\_\_\_\_.**

**3. Solve the following exponent problems:**

**10 = \_\_\_\_ 1000= \_\_\_\_\_\_\_ 670= \_\_\_\_\_\_ 990= \_\_\_\_\_ 12,5760= \_\_\_\_\_**

**4. When you hop with zero the answer is always \_\_\_\_\_\_\_.**

**5. Does proving that something works hundreds of times prove that is is always true? Explain your answer. (p. 223)**

**6. The Shortest Route Problem:** Explain the Shortest Route Problem on Page 227 and list all 24 possible routes between four friends’ houses (I have done the first 4 for you):

The problem**:**

***B***

***A***

***C***

***D***

C

**7. Why, after so many years, has no mathematician been able to solve this problem? (p.228-229)**

**8. In this chapter, the Number Devil and Robert discuss the importance of math proofs. What are proofs and why are they so important?**