**Prime Time Lesson 3.2 Cicada Cycles**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_Hour\_\_\_\_\_

**Warm-up: List the first 20 multiples for each number:**

**13**: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_......

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_......

**17:** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_......

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_......

**Find all the factor pairs for each number;**

**12 13 \_\_­­ 14 \_\_ 16 17**

**Cicada Video:** [**https://www.youtube.com/watch?v=4X6Wl\_DDQSY**](https://www.youtube.com/watch?v=4X6Wl_DDQSY)&  **<https://www.youtube.com/watch?v=Yhge_b3qFGc>**

 **Stephan’s grandfather told him about a terrible year when the cicadas were so numerous that they wrecked the buds on all the young trees in his orchard. Stephan conjectured that both 13-year and 17-year cicadas came up that year. Assume that Stephan’s conjecture is correct.**

1) How many years after an appearance of 13-year and 17-year cicadas together will both types of cicadas appear together again? Explain.

Is your answer to this LESS THAN, GREATER THAN, or EQUAL TO the product of the cicada cycles?

2) Suppose there were 12-year, 14-year, and 16-year cicadas, and they all came up this year. How many years will elapse before they all come up together again? Explain.

Is your answer to this LESS THAN, GREATER THAN, or EQUAL TO the product of the cicada cycles?