Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table# \_\_\_\_ Period: \_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

**7.4B NOTES – Estimating Square Roots**

*Objective: Approximate square roots (pre-req. for CCSS 8.NS.2)*

*HW: (7.4B) p. 313 #20 – 23, 26 – 31, 43 (Solutions on p. A33)*

**\*\*\* Start with LESSON LAUNCH on back \*\*\***

**SQUARE NUMBERS:** 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400



|  |
| --- |
| WATCH TUTORIAL VIDEO, LESSON 7.4, EXAMPLE 2, THEN DO O.Y.O. p. 311 #4 – 7 |

**EXAMPLES:**

|  |  |
| --- | --- |
| **Estimate** $\sqrt{23}$ **to the nearest (a) integer and (b) tenth.**1. $\sqrt{23}$ is between $\sqrt{16}$ and $\sqrt{25}$.

1. Guess and check the estimate of the square root to the nearest tenth.

4.52 = 20.254.72 = 22.094.82 = 23.04  | **Estimate** $-\sqrt{67}$ **to the nearest (a) integer and (b) tenth.**1. $-\sqrt{67} ≈ \\_\\_\\_\\_\\_\\_\\_$ (integer)
2. $-\sqrt{67} ≈ \\_\\_\\_\\_\\_\\_\\_$ (tenth)
 |

 ESTIMATE THE SQUARE ROOT TO THE NEAREST (a) INTEGER AND (b) TENTH.

|  |  |
| --- | --- |
| 4. $\sqrt{8}$1. $\sqrt{8} ≈ \\_\\_\\_\\_\\_\\_\\_$ (integer)
2. Guess and Check

 $\sqrt{8} ≈ \\_\\_\\_\\_\\_\\_\\_$ (tenth) | 5. $-\sqrt{13} $a) $-\sqrt{13} ≈ \\_\\_\\_\\_\\_\\_\\_$ (integer)b) Guess and Check $-\sqrt{13} ≈ \\_\\_\\_\\_\\_\\_\\_$ (tenth) |

**BACK 🡪**

|  |  |
| --- | --- |
| 6. $-\sqrt{24}$1. $-\sqrt{24} ≈ \\_\\_\\_\\_\\_\\_\\_$ (integer)
2. Guess and Check

 $-\sqrt{24} ≈ \\_\\_\\_\\_\\_\\_\\_$ (tenth) | 7. $\sqrt{110}$1. $\sqrt{110} ≈ \\_\\_\\_\\_\\_\\_\\_$ (integer)
2. Guess and Check

 $\sqrt{110} ≈ \\_\\_\\_\\_\\_\\_\\_$ (tenth) |

ON YOUR OWN (#8 – 10)

Which number is greater? **EXPLAIN.**

|  |  |  |
| --- | --- | --- |
| **\_\_\_\_\_\_\_\_ IS GREATER BECAUSE****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_ IS GREATER BECAUSE****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **\_\_\_\_\_\_\_\_ IS GREATER BECAUSE****\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

**\*\*\*\*\*\*\*\*\*\*\*\* LESSON LAUNCH \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Find a number that satisfies the diagram**

|  |  |  |
| --- | --- | --- |
| 1. k = ?

 $\sqrt{k}$ | 1. m = ?

 $\sqrt{m}$ | 1. n = ?

 $\sqrt{n}$ |