**Benchmark Review –** Quarter 1🖉

**Show all work on a separate sheet of paper!**

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| --- | --- | --- | --- |
| **List the first 15 perfect squares.** | | | **Final Answers** |
| **1.** |  | | |
| **Identify the two square roots of each number.** | | | |
| **2.** | 25 | **2.** |  |
| **3.** | 169 | **3.** |  |
|  | | | |
| **Simplify each expression** | | | |
| **5.** | + | **5** |  |
| **6.** | − | **6.** |  |
| **Each square root is between two consecutive integers. Name the integers and approximate the square root to the nearest hundredth.** | | | |
| **8.** |  | **8.** |  |
| **9.** |  | **9.** |  |
| **Apply your knowledge by answering the following questions.** | | | |
| **10.** | John is trying to determine how much icing he will need to put the border on a birthday cake she is making. What is the perimeter of her square cake pan with an area of 81 square inches? | **10.** |  |

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| **Simplify each square root by factoring out the perfect squares.** | | | |
| **11.** |  | **11.** |  |
| **12.** |  | **12.** |  |

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| --- | --- | --- | --- | --- | --- |
| **Complete the table below. Simplify all fractions to lowest terms.** | | | | | |
| **13.** | |  |  |  | | --- | --- | --- | | Fraction | Decimal | Percent | |  |  |  | |  |  |  | |  | 0.4 |  | |  | 0.75 |  | |  |  | 52% | |  |  | 15% | | | | | |
| **Write the following repeating decimals as fractions.** | | | | | |
| **14.** |  | **14.** | |  | |
| **15.** | 0.1 | **15.** | |  | |
| **Classify the following as rational or irrational.** | | | | | |
| **16.** |  | **16.** | |  | |
| **17.** | 0.1 | **17.** | |  | |
| **18.** |  | **18.** | |  | |
| **19.** | 3 | **19.** | |  | |
| **Order these values from least to greatest** | | | | | |
| 4 3.9 | | | **20.** | |  | |

**Simplify each expression. State your reasoning in words to the right of each expression.**

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| 21. (2*xy)3* |
| 22. |
| 23. 60 |
| 24. |
| 25. (32) (34) |
| 26. (43)2 |
| 27. |

|  |  |  |  |
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| **Write the following in scientific notation** | | | |
| **28.** | 0.00084 | **28.** |  |
| **29.** | 25,700,000 | **29.** |  |

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| **Write the following in decimal notation.** | | | | | | | | | |
| **30.** | | 4.56 x 104 | | | **30.** | | |  | |
| **31.** | | 1.3 x 10-6 | | | **31.** | | |  | |
| **Simplify the following.** | | | | | | | | |
| **32.** | | (1.39 x 103) + (5.32 x 105) | **32.** | | |  | | |
| **33.** | | (9.32 x 10-4) - (3.2 x 10-5) | **33.** | | |  | | |
|  | | | | | | | | |
| **34.** | | (4.6 x 10³) · (2 x 10-5) | **34.** | | |  | | |
| **35.** | | (26.3 x 105) / (4 x 103) | **35.** | | |  | | |
| **Order from least to greatest.** | | | | | | | | |
| **36.** | | 3.3 x 105  6.7 x 103  7.2 x 102  7.2 x 103 | **36.** | | |  | | |
| **Apply your knowledge to answer the following.** | | | | | | | | |
| **37.** | | The Earth’s crust contains about 130 trillion metric tons of gold (1.3 x 10^14). One metric ton of gold is worth about $8 million. What is the approximate value of the gold in Earth’s crust? | **37.** | | |  | | |
| **Choose the best measurement.** | | | | | | | | | |
| **38.** | | The distance to the moon. *Meters or miles* | | | **38.** | | |  | |
| **39.** | | EMMMS’s football field. *Inches or yards* | | | **39.** | | |  | |
| **40.** | The water a cat drinks in a day. *Gallons or fluid ounces* | | | **40.** | | |  | | | |