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| **Computer Science** | **Java Lab Assignment # 04ab** |
| **Arithmetic With Math Class Methods** | **100 Point Versions** |
| **Assignment Purpose:**  Do not open any previous files. | |

You will be given another series of mathematical expressions. As in the last chapter, you need to translate these expressions into Java to compute the answer, and then display the result. What is different is that this time you are computing square roots and absolute values, rounding numbers, and working with exponents, all require methods from the **Math** class. You will notice that different problems are grouped by type. All *square root* problems use an *s* variable; all *absolute value* problems use an *a* variable; etc.

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| **Lab04ast.java Student Version** | **Do not copy this file, which is provided.** |
| **// Lab04ab.java**  **// Arithmetic With Math Class Methods**  **// Student Version**  **public class Lab04ab**  **{**  **public static void main(String args[])**  **{**  **System.out.println("Lab 04AB, Student Version");**  **System.out.println();**  **double f = 10.0;**  **double g = 20.0;**  **double h = 30.5;**  **double k = 5.5;**    **double a1 = Math.sqrt(81);**  **System.out.println("a1 = " + a1);**    **System.out.println();**  **}**  **}** | |

**These are the mathematical expressions that you need to translate into Java:**

**Square Root Problems**

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| **\_\_**  **A1 = √81** | **\_\_\_**  **A2 = √400** | | **\_**  **A 3 = √5** | | **\_**  **A 4 = √f** |
| **\_**  **A 5 = √h** | | **\_\_\_\_**  **A 6 = √f + h** | | **\_\_**  **A 7 = √fh** | |

**Absolute Value Problems**

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| --- | --- | --- |
| **B1 = | 42 |** | **B2 = | -4 |** | **B3 = -| -50 |** |
| **B4 = | h - k |** | **B5 = | k - h |** | **B6 = -| h - k |** |

**Power Problems**

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| **C1 = 72** | **C2 = 27** | **C3 = k3** |
| **C4 = 3k** | **C5 = gg** | **C6 = fg** |
| **C7 = (-f)2** | **C8 = g-2** | **C9 = g-3** |

***Classroom Grades*: Rounding Problems**

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| **D1 = 82.4999**  ***rounded to the nearest integer*** | **D2 = 42.5**  ***rounded to the nearest integer*** |
| **D3 = 82.0001**  ***rounded down*** | **D4 = 62.9999**  ***rounded up*** |
| **D5 = 92.0001**  ***rounded up*** | **D6 = 72.9999**  ***rounded down*** |

**Max/Min Problems**

|  |  |
| --- | --- |
| **e1 = 4 or 6**  ***whichever is greater*** | **e2 = - 4 or -6**  ***whichever is lesser*** |
| **e3 = g or f**  ***whichever is greater*** | **e4 = h or k**  ***whichever is lesser*** |
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