Math Investigation

**1, 4, 8, 9**

**How to investigate:**

1. **Write math expressions that equal the numbers from 1 to 100**
   1. **You have to use each number (1, 4, 8, and 9) once, and only once in each expression**
   2. **You must use all 4 numbers (nothing else)**
   3. **No 2-digit numbers**
   4. **Any combination of math operations you know**
   5. **Order of operations, exponents, square roots, factorials, summation etc.**
2. **Write a small report describing how you accomplished your task**
   1. **Your plan**
   2. **Your math strategies, give examples**
   3. **Patterns you’ve found**
   4. **Problems and how you overcame them**
   5. **Your conclusions**
   6. **Title Page**
3. **Marking**
   1. **50% of your mark is from part 1. The other 50% from part 2.**
   2. **To get a level 3, find 80 different expressions**
   3. **To get a level 4, find 90+ expressions**
   4. **You are allowed to have a maximum of 10 duplicates (e.g. two difference expressions that both equal 33)**
4. **Showing your work**
   1. **You have to show all of your work**
   2. **You are allowed to use a calculator and ask for help**
5. **Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- |
| **1.** | **26.** | **51.** | **76.** |
| **2.** | **27.** | **52.** | **77.** |
| **3.** | **28.** | **53.** | **78.** |
| **4.** | **29.** | **54.** | **79.** |
| **5.** | **30** | **55.** | **80.** |
| **6.** | **31.** | **56.** | **81.** |
| **7.** | **32.** | **57.** | **82.** |
| **8.** | **33.** | **58.** | **83.** |
| **9.** | **34.** | **59.** | **84.** |
| **10.** | **35.** | **60.** | **85.** |
| **11.** | **36.** | **61.** | **86.** |
| **12.** | **37.** | **62.** | **87.** |
| **13.** | **38.** | **63.** | **88.** |
| **14.** | **39.** | **64.** | **89.** |
| **15.** | **40.** | **65.** | **90.** |
| **16.** | **41.** | **66.** | **91.** |
| **17.** | **42.** | **67.** | **92.** |
| **18.** | **43** | **68.** | **93.** |
| **19.** | **44.** | **69.** | **94.** |
| **20.** | **45.** | **70.** | **95.** |
| **21.** | **46.** | **71.** | **96.** |
| **22.** | **47.** | **72.** | **97.** |
| **23.** | **48.** | **73.** | **98.** |
| **24.** | **49.** | **74.** | **99.** |
| **25.** | **50.** | **75.** | **100.** |