**Name: Class: Date:**

**Chapter 6 Review Handout**

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| 1. Simplify

(-3m)2 | 1. Simplify

$$\frac{2x^{4}y^{-4}z^{-3}}{3x^{2}y^{-3}z^{4}}$$ |
| 1. Simplify

$$\frac{-3^{-2}x^{3}y^{-1}z^{-1}}{x^{-4}y^{0}z^{0}}$$ | 1. Simplify

$$\left(4a^{3}b^{-8}c\right)^{-2}(5ab^{16}c^{5})$$ |
| 1. Simplify

$$\left(\frac{-5x^{3}y^{7}z^{-9}}{xz}\right)^{2} ∙\left(\frac{2x^{-9}y^{2}}{3y^{-3}z}\right)^{-2}$$ | 1. Determine if the following is a geometric sequence. If so write an equation for the sequence and find the 12th term.

-1,6,-36,216 |
| 1. Determine if the following is a geometric sequence. If so write an equation for the sequence and find the 16th term.

4,16,36,64 | 1. Given the first term and the common ratio of a geometric sequence write an equation of the sequence and find the 8th term.

A1 = 0.8 r = 5 |
| 1. It is a busy time in the North Pole and the elves are working hard on making toys. There are 5 elves working on making toys. However, other elves help out and the amount of elves triples every 3 hours. How many elves are working on the toys after 12 hours?

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| 1. The mall has been busy with the holidays approaching. In a typical month there are 1,359 shoppers attending the mall. However, there has been a 3.8% increase in the amount of shoppers. How many shoppers attend the mall in 2 holiday months?
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| 1. An ice sculpture is 5 ft tall and with the warm weather we have been having the ice sculpture is decreasing in size by 0.75%. How tall is the ice sculpture after being outside for 4 hours?

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| 1. You have $387 in your bank account and the bank has an annual interest rate of 2.75% and compounds interest quarterly. How much will you have in your bank account after 5 years?

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| Answers: 1.) 9m2 2.) $\frac{2x^{2}}{3yz^{7}}$ 3.) $-\frac{x^{7}}{9yz}$ 4.) $\frac{5b^{32}c^{3}}{16a^{5}}$ 5.) $\frac{225x^{22}y^{4}}{4z^{18}}$ 6.) A(n) = -1(-6)n – 1 ; 362,797,056 7.) Not a geometric sequence 8.) $y=0.8\left(5\right)^{n-1} y=62,500 $9.)y = 5(3)x; 405 elves 10.) y = 1359(1 + 0.038)x; 1,464 people 11.) y = 5(1 – 0.0075)x; 4.85 in 12.) $y=387(1+\frac{0.0275}{4})^{4t}$; $443.84 |