

Take-Home Exam #5 Ch. 6**Math 98****Name:** _____

1. Simplify: $(2^{-4})^{-2}$

2. Simplify: $\left(\frac{5}{7}\right)^2$

3.) Simplify: $(x^3 y^4)^{-2} (x^4 y^5)^{-2}$

4.) Simplify: 11^{-2}

5.) Simplify: $10^0 - 11^1 - 14^0$

6. Simplify. Use positive exponents: $\frac{x^7}{x^{-4}}$

7.) Write 132,000 in scientific notation

8.) Write 3.02×10^{-5} in expanded form

9.) Simplify. Use positive exponents:

$$\frac{(6^{-6})^{-5} (8)^{-8}}{(6^{-6})^{-4}}$$

10.) Simplify. Use positive exponents:

$$\frac{(2x^3 y^5)^{-2} (x^2 y^4)^{-2}}{(x^6 y)^{-2} (x^7 y^2)^{-2}}$$

11.) Simplify. Use positive exponents:

$$\frac{48a^{13}}{6a^9} - \frac{34a^8}{2a^4}$$

12.) **Simplify. Write answer in scientific notation:**

$$\frac{4 \times 10^{-11}}{2.1 \times 10^{-5}}$$

13.) **Multiply:** Use scientific notation:

$$(2 \times 10^{17})(3 \times 10^{-35})$$

14.) **Subtract:**

$$(y^2 - y - 5) - (y^2 - 8y + 4)$$

15.) **Subtract:** $5x + 9$ from $13x - 7$

16.) **Find the value of** $4x^2 - 7x$ **when** x **is** -5

17.) **Multiply:** $(-11)^2$

18.) **Multiply:** $\left(x + \frac{1}{2}\right)\left(x + \frac{1}{3}\right)$

19.) **Multiply:** $(x + 9)(x - 7)$

20.) **Multiply:** $(y + 5)(y^2 - 5y + 25)$

21.) **Divide** $12x^9 + 6x^8 - 24x^6$ **by** $6x^6$