Name: _____

MATH 1500: Chapter 6 & 7 Test

3 pts. **Use <, or > to make a true statement.**

1. -9.2 ☐ -9 **2.** $\frac{5}{8}$ ☐ $\frac{11}{16}$ **3.** $2.\overline{7}$ ☐ $2.8\overline{7}$

24 pts. **Perform the indicated operations. Leave fractions as fractional solutions and simplify. Round any decimals to the hundredths.**

4. $-5 + (-9) - 15 + (6) + 25$

5. $12\frac{5}{8} + 4\frac{9}{32}$

6. $4.8 \times 7.2 \times (-0.6) \div (-3.4)$

7. $8 + (6 \times 2)^3 + 4$

8. $14 - 3^5 \div 3 \times 3^2$

9. $6.4^2 - \frac{4\sqrt{9^2 - 4^2}}{3^2}$

24 pts. **Simplify.**

10. $3v - 6n - (8v - 9n)$

11. $7(5m^2 + 2m - 3)$

12. $(12r^3 + 6r - 8) + (r^3 + r^2 - 3r - 5)$

13. $2(5w - 8x + 7wx) - 6(9w + x - 4wx)$

14. $(4j)(j^2)(3j^2)(2)$

15. $\frac{42c^2f^3g}{-3cfg}$

6 pts. **Evaluate for the given values.**

16. $R = T^2 + (z - x)^2 - 2y$ for $x = 3,\ y = 4,\ z = 5,\ T = 6$

17. $V = (L + W)(2L + W)$ for $L = 5.5,\ W = 9$

12 pts. **Solve for *x*.**

18. $5x - 32 = 3$

19. $8x - 5 - 5x + 10 = -18$

20. $-3(5x - 8) - 8 + 4(-3x + 9) = -29 + 34$

4 pts. **Solve for Z.**

21. $A = \frac{Z(X+Y)}{2}$

12 pts. **Perform the indicated operations, write solutions in scientific notation.**

22. $\frac{2.5\times10^{3}}{1.05\times10^{5}}$

23. $(3.95 \times 10^{6})(4.56 \times 10^{8})$

24. $\frac{1.098\times10^{18}}{(3.05\times10^{4})(9.03\times10^{-3})}$

2 pts. **25.** In Gillette the temperature dropped 22˚F during the night. If the temperature was 9˚F before the drop, what was the temperature after the drop?

2 pts. **26.** Your checking account had a balance of $565.48 before the test, after the test your account was overdrawn by $175.83. How much did you spend bribing your teacher?

6 pts. **27.** Your company budgeted $787,500 for a construction project. The foundation is expected to cost twice as much as the lumber, and the flooring should cost one-half as much as the lumber. How much should each part cost?

5 pts. **28.** The surface speed (*S*) in feet per minute of a rotating cylindrical object is: $\boldsymbol{S = \frac{dn\pi}{12}}$ where *d* is the diameter of the object in inches and *n* is the rotation speed in rpm. If a grinder has a surface speed of 7500 fpm and a rotation speed of 4777 rpm, what is the diameter of the grinder? Please use $\pi = 3.14$.