PRACTICE EXAM
Exam 2, Chapters 3 & 4 (4.1-4.3) **Name** ANSWER KEY
Math 88, Vanden Eynden
NO Calculators **SHOW ALL WORK to earn FULL CREDIT**

Fill in the blank with the appropriate word. (1 point each)

1. A **negative** number **TIMES** a **positive** number is a NEGATIVE number.
2. A **negative** number **TIMES** a **negative** number is a POSITIVE number.
3. A **positive** number **MINUS** a **negative** number is a POSITIVE number.
4. A **negative** number **PLUS** a **negative** number is a NEGATIVE number.

Evaluate by performing the indicated operations. (2 points each)

5. $9-(-6)$ $= 9+6 = \boxed{15}$

6. $-5-(-10)$ $= -5+10 = \boxed{5}$

7. $(-8)(-3)$ $= \boxed{24}$

8. $(-1)^{45}$ $= \boxed{-1}$

9. $-16+3$ $= \boxed{-13}$

10. $72\div(-8)$ $= \frac{72}{-8} = \boxed{-9}$

11. $\frac{(-6)(6)}{-4}$ $= \frac{36}{4} = \boxed{9}$

12. $-11-9$ $= -11+(-9)$
$= \boxed{-20}$

Evaluate the following expressions at the given values of the variables. (4 points each)

13. $\frac{x^2+1}{2-x}$ for $x=-3$

$\frac{(-3)^2+1}{2-(-3)} = \frac{9+1}{5}$
$= \frac{10}{5} = \boxed{2}$

14. $2a+ab$ for $a=-5\,;\,b=4$

$2(-5)+(-5)(4)$
$-10+(-20) = \boxed{-30}$

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Use order of operations to **evaluate** the given expressions. (4 points each)

15. $10+5(-3)+|4-5|$

$10+(-15)+1$

$10-15+1 = \boxed{-4}$

16. $6^2 \div 9-(8-4)$

$36 \div 9 - 4$

$4-4 = \boxed{0}$

17. $\dfrac{8^2-(-4)^2}{7+(-11)}$

$= \dfrac{64-16}{-4}$

$= \dfrac{48}{-4} = \boxed{-12}$

18. $-20 \div (2)(-2)$

$\dfrac{-20}{2} \cdot (-2)$

$(-10)(-2) = \boxed{20}$

Simplify the given expressions. Combine all like terms whenever possible. (4 points each)

19. $-3(2x-7)$

$-3(2x)+(-3)(-7)$

$\boxed{-6x+21}$

20. $11x+6-9x+20$

$11x-9x+6+20$

$\boxed{2x+26}$

21. $-(5-8x)+2x-1$

$-5+8x+2x-1$

$\boxed{10x-6}$

22. $-4(2+x)+6(5x-7)$

$-8-4x+30x-42$

$26x-42-8 = \boxed{26x-50}$

23. Determine whether each statement is **T**rue or **F**alse (2 points each).

a. $x=2$ is a solution to the equation $x^2+3x-10=0$. TRUE

b. $|6|+|-6|=0$ FALSE

c. $-20>-22$ TRUE

d. "Five is subtracted from a number" is translated: $5-x$ FALSE

f. $-(8-x)=-8+x$ TRUE

g. A positive number PLUS a negative number is **always** negative. FALSE

PRACTICE EXAM

Solve the equations for the variable given. (4 points each)

24. $a+11=3$

$-11 \quad -11$

$a = -8$

25. $-8y=32$

$\frac{-8y}{-8} = \frac{32}{-8}$

$y = -4$

26. $4x-2=14$

$+2 \quad +2$

$\frac{4x}{4} = \frac{16}{4}$

$x = 4$

27. $5y+12-2=-8+2y$

$5y+10 = -8+2y$

$-2y \quad -2y$

$3y+10 = -8$

$-10 \quad -10$

$\frac{3y}{3} = \frac{-18}{3}$

$y = -6$

28. $7=-(3x-4)+6$

$7 = -3x+4+6$

$7 = -3x+10$

$-10 \quad -10$

$\frac{-3}{-3} = \frac{-3x}{-3}$

$x = 1$

29. $2(5x-3)+8=-7(x+4)+7x$

$10x-6+8 = -7x-28+7x$

$10x+2 = -28$

$-2 \quad -2$

$\frac{10x}{10} = \frac{-30}{10}$

$x = -3$

Translate into an algebraic equation and then **solve the equation**. (4 points)

30. The sum of twice a number and 7 is –5. What is the number?

$2x+7 = -5$

$2x+7 = -5$

$-7 \quad -7$

$\frac{2x}{2} = \frac{-12}{2}$

$x = -6$

☺☺☺☺☺ ***BONUS*** *(total of **5** extra points)* ☺☺☺☺☺

Simplify the expression below. **Combine like terms** whenever possible.

$3x(5+x)-4xy+9x^2-8y-(x-y+xy)+2x(5+y)$

$15x+3x^2-4xy+9x^2-8y-x+y-xy+10x+2xy$

$12x^2+24x-3xy-7y$