Name_____ Math Seminar

Assignment #1

# Language of Math & Order of Operations Review

1) $40 + 1^2 + 3 - (3 \times 7) + 7 - 5$

2) $5 \times 5 - 7 + 82 - (2 \times 1) + 5$

3) $2 + 3^2 + 2^3 + (7 \times 9)$

4) $5^2 + 12^2 - (10 + 12)$

5) $7 + 0 - 1 + 10 \times 6^2$

6) $6 + 12/3 + 8 - 8$

*continue on next page

For problems 7-12, place the following words under the correct column.

7)quotient 8)difference 9)sum 10) product 11)plus 12)decreased by

| Addition | Subtraction | Multiplication | Division |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

13-17 Translate Algebraic Expressions

13) Sum of 9 and 2 13 9+2

14) 4 times 7 14_____

15) 5 minus x 15_____

16) 10 divided 5 16_____

17) 12 is subtracted from 20 17_____

18-20 Determine the 1st expression to evaluate and write it on the line

18) $4^5 + 7 - 10$ 18 $4^5$

19) 3 + 1+ (7x4) --- 12 19_____

20) 14 –9 + 0 + 2 – 18 20_____

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Assignment #2 Combining like terms

***Like Term***: a term that has the same variable (letter) raised to the same power.

- *The expression 2x + 7x + 3 – 2 can be written as an equivalent expression 9x + 1 after combining like terms.*
- *The expression 2x – 4y + 7z + 3 cannot be simplified because none of the terms are like terms.*

- More examples:
  a) 2 and 3 are like terms (*both are constants*)
  b) 3*x* and 2*x* are like terms (*same variable*)
  c) 3*x* and 2*y* are NOT like terms (*different variables*)
  d) 3*ab* and 2*ab* are like terms (*same variable*)
  e) 3*x* and 3$x^2$ are NOT like terms (*different powers of x*)
  f) 3*xy* and 2*yx* are like terms (*Commutative Property of Multiplication: order does not matter*: *xy* = *yx*)

# COMPLETE THE FOLLOWING

1) 2(3x+7)-2

2) 4x+9(2+3x)

3) 2(3x+7)-2

4) 4x+9(2+3x)

5) 5(3+6x)+4+2x

6) -4(x+1)+14

7) -3n+8m-5(2-m)

8) 4x(3+2) + 7x

9) 4-2x+5x+3-0

10) 7x+3y+2y-7+5x

11) 3a+3b+3c+2+7b+4c

12) 11x+12z+14z-10z

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Assignment #3

# COMMISSION WORKSHEET

***Reminder to change % to decimal

1) John is selling sets of knives and makes a 10% commission on all sales. What would his commission be on his sales totaling $3250?

2) A real estate agent earns a commission of 4.5% for each house he sells. If a he sold a house for $225,900, find how much commission he made on this sale.

3) A real estate agent sold a house for $315,000 last week. If her commission is 1.25% of the selling price of the home, find the amount of her commission.

5) Roberta makes $9 an hour plus a 12.5% commission selling jewelry. How much does she earn on an 8 hour shift in which she sells $380 worth of jewelry?

6) Kevin works as a salesperson at a store that specializes in custom made computers. He earns a base pay of $325 per week and a commission on his sales. If Kevin earned a total of $1125 last week, how much of it was commission?

7) Danielle sells beauty supplies and earns a base salary of $450 per week plus a 9% commission on sales. During one particular week, she sells $895 worth of beauty supplies.

a) How much commission does she make for that week?

b) How much total money does she earn before taxes that week?

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Assignment #4

# Composition of Functions Review

Directions: Complete the following questions and make sure you show ALL work.

## Use the following to answer questions 1-4

## f(x) = 4x + 3 and g(x) = x – 2

1. f(g(5))

2. g(f(-6))

3. f(f(7))

4. g(f(4))

Continue on next page

## Use the following to answer 5-6

## $f(x) = 6x^2$ and $g(x) = 14x + 4$

5. $(f \circ g)(2)$

6. $(g \circ f)(5)$

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Assignment #5

# Double pay

**Micronano pays double time to anyone working over 40 hours a week.**

| Hours Worked | Hourly rate | # of hours at double pay | How much is double pay | Double pay amount |
|---|---|---|---|---|
| **52** | **$8.80** | 52-40=12 | 8.80X2=17.60 | 12x17.60= $211.20 |
| **45** | **$11.72** | | | |
| **42** | **$9.78** | | | |
| **55** | **$10.75** | | | |
| **47** | **$6.50** | | | |
| **54** | **$15.25** | | | |
| **60** | **$21.25** | | | |

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Assignment #6

# Hourly and Salary Pay

1. Regular hours; 35 Rate of pay; $11.59 Gross pay
   **35x$ 11.59= $405.65**
2. Regular hours; 22 Rate of pay; $14.95 Gross pay
3. Regular hours; 15 Rate of pay; $8.95 Gross pay
4. Regular hours; 40 Rate of pay; $21.95 Gross pay
5. Regular hours; 32 Rate of pay; $17.22 Gross pay

## 52 weeks = 1 year  4 weeks = 1 month  12 months = 1 year

6. Manuel is a word-processor operator. He makes $11.50 an hour. Determine his gross earnings for a week if he worked 52 hours?

7. Isabel drove truck for $8.75 an hour. If she worked 35 hours, what would her gross earnings be?

8. Cannon Research pays its office manager a weekly salary of $720. What gross pay will the office manager receive every 2 weeks?

9. Sherry is a substitute teacher. On the days she works she is paid $105 a day. What is Sherry's pay for 4 days of work?

10. Tom Page earns $368 a week. Tom is paid every two weeks. What gross pay does he receive each payday?

11. Eldon Cavanaugh is paid a weekly salary of $562. How much would Eldon earn in 4 weeks of work?

12. Use Eldon's information from #11 to find out how much he would earn in one year, assuming that he works 52 weeks?

13. Leroy earned $274.50 last week at his regular job. Last week he also worked 11 hours at this part-time job that pays him $8.25 an hour. What total pay did he earn from both jobs last week?

14. Kellie earns a monthly salary of $2455 working at Verizon Wireless as a sales manager. What is Kellie's yearly gross pay?

15. Ethan makes $1400 a week. What is his monthly gross pay? What is his yearly gross pay?

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Assignment #7

# Salary Pay

What makes up a year?

_____ days= 1 year

_____ weeks= 1 year

_____ months= 1 year

How many weeks in a month? _____

How often is bi-weekly? _____

| Weekly Salary | Bi-weekly | Monthly | Yearly |
|---|---|---|---|
| $450.00 | | | |
| $325.00 | | | |
| $190.00 | | | |
| $650.00 | | | |

Rita receives a bi-weekly paycheck of $630.00. How much does she make in one month?

Robby receives a monthly salary of $1020.00. How much does he make in one year?

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Assignment #8

**Straight and Quota Commission**

1) Rewrite as a decimal 9.25% 1._____

2) Find the amount of 12% of $800 2._____

3) Rewrite as a percent 0.08 3._____

4) Dan Pawlik is paid a straight commission of $5.75 for each item he sells. Last month he sold 103 items. Find his commission. 4._____

5) Joanne White is paid a salary of $410 a week and a commission of 5.6% on all sales. Her sales last week were $6700. Find her total earnings for the week. 5._____

6) Sheldon Cole earns a salary of $150 a week and a commission of 7% on all sales. If Cole's sales for one week were $6890, what were his total earnings for the week? 6._____

7) Roosevelt Quinn receives a weekly salary of $600, plus .5% commission on all sales OVER $12,500 a week. Last week his sales were $48,370. What was his total earnings for the week? 7._____

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Assignment #9

# Regular and time and a half pay

Directions: 40 hours is considered a regular work week. Any hours over 40 will receive time and a half pay

| **Hours Worked** | **Hourly Pay rate** | **# of hours at regular pay** | **Regular Pay amount** | Time and a half pay rate | **# of hours at time and a half** | **Time and a half pay amount** |
|---|---|---|---|---|---|---|
| **52** | **$8.80** | 40 | 8.80 | 8.80x1.5= 13.20 | 52-40=12 | 12 x 13.20= 158.40 |
| **25** | **$11.72** | 25 | | | | |
| **32** | **$9.78** | | | | | |
| **40** | **$10.75** | | | | | |
| **47** | **$6.50** | | | | | |
| **54** | **$15.25** | | | | | |
| **60** | **$21.25** | | | | | |

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**Assignment #10**

# *Operations on Integers*

**Directions: Add, Subtract, Multiply, or Divide.**

1) -23 + (-8) = _____

2) -5 • -3 = _____

3) -19 + 6 = _____

4) -56 ÷ 8 = _____

5) (-4)(-8) = _____

6) -13 – 20 = _____

7) -12 + (-11) = _____

8) -20 / -10 = _____

9) 3 – (-12) = _____

10) -24 + 19 = _____

11) -6 × 7 = _____

12) 7 – 33 = _____

13) 40 + (-32) = _____

14) -18 – 30 = _____

16) 8(-3) = _____

17) 30 + (-13) = _____

18) -40 ÷ -8 = _____

19) -12 + 30 = _____

20) -10 – 5 = _____

21) -9 • 5 = _____

22) -4 + (-19) = _____

23) 48 / -2 = _____

24) -30 ÷ -3 = _____

25) 11 – (-12) = _____

26) (11)(-4) = _____

27) -34 + 18 = _____

28) -18 – (-10) = _____

29) -25 + 23 = _____

15) $\frac{-24}{2}$ = ____

30) $\frac{-36}{-12}$ = ____

31) -20 + (-9) =

_____ =

33) -19 – (-15) =

_____ =

32) 11 + (-14) =

_____ =

34) 11 – (-1) =

_____ =

## B. Use integers to calculate the answer, then use words to complete the sentence and answer the question. (2 points each)

25) Jim's business had a profit of $290 in its first month, and a loss of $130 in its second month. What is the profit/loss after the first two months?

____ + ____ = ____ Jim's business _____.

26) For the first round of Jeopardy, Alex lost $200. For the second round, Alex lost $380. What has Alex won/lost after two rounds?

____ + ____ = ____ Alex has _____.

27) James' stock dropped 2 points <u>each</u> day over the last 5 days. How many points has James' stock dropped?

____ × ____ = ____ James' stock _____.