Name:_____ **Math 8H 2025 Lesson 1 Basic Operations** Date:_____

1. Indicate whether if the following statements are TRUE or FALSE:

$a-b=a+(-b)$	$-a+b=b-a$	$a-(-b)=a+b$
$-a-(-b)=b+a$	$b-a=-(a-b)$	$a+b-c+(-d)=a+b-c-d$

2. Evaluate each of the following by adding or subtracting

a) $1+(-2)-3+4-(-5)$	b) $12-(-15)+(-20)$	c) $8+(-12)-(-13)$
d) $8+(-9)-(-11)-12$	e) $-7+6-13+(-14)-(-23)$	f) $-20-(-15)+19-23$
g) $12+22-43+41-(-15)$	h) $-12+(-13)-14+(-15)-(-16)$	i) $-15+(-17)-19+23-(-22)$

3. Evaluate each of the following the order of operations

a) $8+2\times5$	b) $9+3\times4\div2-3$	c) $2+3\times4-6\div2$
d) $4+3\times5-6\div2$	e) $8\times(-4)+12\div(6)$	f) $1200\div2\times10\div5\div3$

g) $48\times3\div24\div3+2$	h) $3\times4+6\times5\div10+11$	i) $12\times10\div5-2\times8$

4. Add the following without multiplying each term:

a) $7(x)+9(x)-11(x)$	b) $7(13)+9(13)-11(13)$	c) $6(7)-12(7)+11(7)+14$
d) $19(12)-17(12)+2(23)$	e) $6\times15+7\times(15)+9\times5$	f) $7(13)+2(26)-3(52)$

5. Find the average for each of the following set of values

a) $4a,\ 4b,\ 4c,$ and $4d$	b) 45, 54, 81, 18, 27, and 90	c) $72,72,...72(13times)$ and $48,48,...48(11times)$

6. Given that $(x+y)^2=x^2+2xy+y^2$, what is the value of $1000^2+2(1000)(-999)+(-999)^2$

7. Given that $(x-y)^2 = x^2 - 2xy + y^2$, what is the value of $997^2 - 2(997)(995) + (995)^2$

8. Dave wrote 12 tests and got an average of 68%. If he gets 85% on every new test that he writes, how many more tests will he need to until he gets an average greater than 75%?

9. Mt. Everest, the highest elevation in Asia, is 29,028 feet above sea level. The Dead Sea, the lowest elevation, is 1,312 feet below sea level. What is the difference between these two elevations?

10. The sum of 8 consecutive numbers is 188, what are the numbers?

11. There are 12 sedans and 18 minivans. Each sedan has 5 females and each minivan has 7 males. What is the difference in the number of males and females?

12. Each burger at a fastfood chain costs $4.50 and each hotdog costs $2.25. If Dave spent $100 only on hotdogs and burgers, and has twice as many hotdogs than burgers, how many of each did he purchase?

13. There are 90 students in a class and there are twice as many females and than males. The average score of the females in the class is 85% and the average score of the males is 70%. What is the average score of all the students in the class?

14. Micah placed pennies, nickels, and dimes in rows according to the diagram so that each row contains one more coin than the previous. What is the number of cents in the value of all the coins in the first 13 rows?