Name _____   Date_____

Solve each using order of operations.

1) $3 + 8 \cdot 5$

2) $6^2 + (5 - 2)$

3) $(5 + 2)^2 - 7$

4) $4 \cdot 3 + \frac{18}{3}$

5) $\frac{2^3}{4} \cdot 10 + 3$

6) $\frac{(1+5)^2}{18 - 3 \cdot 5}$

Evaluate each expression for the given value.

7) $3x + 5$ for *x*=10

8) $\frac{12}{y} + (3 + 6)$ for *y*=3

9) $3(a + 5) - a^2$ for *a*=3

Write an expression for each verbal phrase.

10) The sum of a number (*y*) and 18

11) The product of a number (n) and 5

12) The quotient of a number (*b*) and 6

13) The difference of 8 and a number (*a*)

14) 6 more than a number (*d*)

15) 12 less than a number (*x*)

16) 5 times a number (*z*)

17) 3 times the sum of a number (*j*) and 4

Write an expression for each situation.

18) The amount spent on (*g*) gumballs if each gumball costs 10 cents.

19) The amount of change you get back from a store if your total purchase is (*d*) dollars and you gave the cashier $20.

20) The amount of money each school will get if you share the profit (*p*) from the bake sale equally with 4 schools.

21) The amount of money you spend at the store if you buy a pair of socks for $6 and jeans for (*j*) dollars.

22) The amount to spend at the store if you buy several pens (*p*) for $0.30 each and one notebook for $2.50.

Write an equation for each situation.

23) The sum of a number (*n*) and 6 is 11

24) The difference of a number (*x*) and 12 is 5.

25) The product of 5 and *w* is 35

26) 6 less than 4 times a number (*y*) is 26

Write an inequality for each phrase.

27) *x* is less than 9

28) *y* is greater than 18

29) *g* is greater than or equal to 8

30) *d* is less than or equal to 7

31) *x* is at least 14

32) *b* is at most 20

33) *m* is no more than 10

34) *h* is no less than 14

35) 7 is less than 3 times *p*

36) The quotient of *n* and 6 is at least 2

37) 4 more than the product of 7 and *w* is at most 4

Check whether the given number is a solution of the equation or inequality.

38) $4x - 6 = 4$ for *x*=2

39) $\frac{12}{a} - 1 = 3$ for *a*=3

40) $4(b + 6) = 24$ for *b*=2

41) $3 + x > 9$ for *x*=7

42) $3x + 6 < 12$ for *x*=5

43) $4(a - 9) \geq 20$ for *a*=15

44) $2x - 8 < 2$ for $x=5$

45) $3 + \dfrac{15}{k} \geq 2$ for $k=5$

46) $\dfrac{3(a+5)}{(7-a)^2} \geq 1$ for $a=3$

Find the unit rate for each.

47) 5 candy apples for $7.50

48) 7 miles in two hours

49) 300 words in 4 minutes

50) 26 meters in 78 steps