Name:_____

Practice Test – Unit Two

Directions: Please answer the following questions with true or false. (1 point each)

1. The inverse operation of division is multiplication.	T
2. In the equation $2x + 4 + x = -8$ you should combine like terms in the first step to solve.	T
3. Any equation with a variable is a open statement.	T
4. The equation 4 + 8x=12 is a question.	F
5. Literal equations are ones in which the solution might not be a discrete number.	T

Directions: Please place the following steps in order using the numbers 1-5. (5 points)

5. 4	Undo all of your additions and subtractions using the inverse operation.
0	Clear any fractions in the problem by multiplying both sides by the LCM of all the denominators in the problem.
7. 3	"Get" all of your variables on one side using an inverse operation.
8. 5	Undo all multiplications and divisions with the inverse operation.
9. 2	Collect Like Terms on either side of the equation.
10 1	Distribute

Directions: Please solve the following equations for the variable. Express your answers as fractions when you get non-integer answers. State null set when appropriate. Check your solutions by hand. (Do not check any null set problems.)

points

11. $-3x = 21$

$\frac{-3x}{-3} = \frac{21}{-3}$

$x = -7$

Check

$-3(-7) \stackrel{?}{=} 21$

$21 \stackrel{\checkmark}{=} 21$

3 points

12. $\frac{m}{12} = \frac{-17}{3}$

$3m = 12(-17)$

$\frac{3m}{3} = \frac{204}{3}$

$m = 68$

Check

$\frac{68}{12} \stackrel{?}{=} -\frac{17}{3}$

$-\frac{17}{3} \stackrel{\checkmark}{=} -\frac{17}{3}$

points

13. $-8(b + 4) = 8$

$-8b - 32 = 8$

$+32 \quad +32$

$\frac{-8b}{-8} = \frac{40}{-8}$

$b = -5$

Check

$-8(-5+4) \stackrel{?}{=} 8$

$-8(-1) = 8$

$8 \stackrel{\checkmark}{=} 8$

3 points

14. $-\frac{7}{3} = -\frac{2}{11} - x$

$+\frac{2}{11} \quad +\frac{2}{11}$

$\frac{-71}{33} = \frac{-x}{-1}$

$x = \frac{71}{33}$

Check

$-\frac{7}{3} \stackrel{?}{=} -\frac{2}{11} - \frac{71}{33}$

$-\frac{7}{3} \stackrel{\checkmark}{=} -\frac{7}{3}$

4 points 15. $11x - 9 = 31 + 10x$ Check

$-10x \quad -10x$

$x - 9 = 31$

$+9 \quad +9$

$x = 40$

$11(40) - 9 \stackrel{?}{=} 31 + 10(40)$

$440 - 9 = 31 + 400$

$431 = 431$ ✓

4 points 16. $15x + 9 - x = 12$ Check

$14x + 9 = 12$

$-9 \quad -9$

$\frac{14x}{14} = \frac{3}{14}$

$x = \frac{3}{14}$

$15\left(\frac{3}{14}\right) + 9 - \frac{3}{14} \stackrel{?}{=} 12$

$\frac{45}{14} + 9 - \frac{3}{14} = 12$

$12 = 12$ ✓

3 points 17. $21 + 12b = -4b + 13 + 16b$ Check

$21 + 12b = 12b + 13$

$-12b \quad -12b$

$21 \neq 13$

null set

no check needed

3 points 16. $-12(g - 3) = 36$ Check

$-12g + 36 = 36$

$-36 \quad -36$

$\frac{-12g}{-12} = \frac{0}{-12}$

$g = 0$

$-12(0 - 3) \stackrel{?}{=} 36$

$-12(-3) = 36$

$36 = 36$ ✓

4 points 18. $-2(x - 5) = -6(3x + 8) - (x - 2) - 22$

$-2x + 10 = -18x - 48 - x + 2 - 22$

$-2x + 10 = -19x - 68$

$+19x \quad +19x$

$17x + 10 = -68$

$-10 \quad -10$

$\frac{17x}{17} = \frac{-78}{17}$

$x = \frac{-78}{17}$

```
-78/17→X
          -4.588235294
-2(X-5)=-6(3X+8)
-(X-2)-22
                     1
```

Check

on the test you will be asked to check this problem on your calculator

Please solve for x in the following equations.

2 points 20. $p = rx$

$x = \frac{p}{r}$

2 points 21. $5(-m) = \frac{-x}{5}(5)$

$-5m = -x$

$\frac{-5m}{-1} = \frac{-x}{-1}$

$5m = x$

2 points 22. $b = rx - 12b$

$+12b \quad +12b$

$\frac{13b}{r} = \frac{rx}{r}$

$x = \frac{13b}{r}$

2 points 23. $13b - 2x = 5r$

$-13b \quad +3b$

$\frac{-2x}{-2} = \frac{5r + 3b}{-2}$

$x = \frac{5r + 3b}{-2}$

Please solve the following equations with a DUR Chart.

24. $8(x - 2) = 48$ 2 points

Do	Undo	Result
X	=	8
−2	+2	6
· 8	÷ 8	48

25. $c = g(5 + x)$ 2 points

Do	Undo	Result
X	=	$\frac{c}{g} - 5$
+5	−5	$\frac{c}{g}$
·g	÷g	c

Directions: Please answer the following. You must show that you executed the 5 step strategy for word problems that we learned in class to receive full credit. This includes active writing and annotations on the word problem itself.

26. The sum of four consecutive integers is 267. What is the first integer? 3 points

Assign Variables or Make Diagram	Write an Equation		Answer the Question
1st = X 2nd = X+1 3rd = X+2 4th = X+3	Solve the Equation	$X + X+1 + X+2 + X+3 = 267$ $4X+6 = 270$ $-6 \quad -6$ $\frac{4X}{4} = \frac{264}{4}$ $X = 66$	66

27. The sum of three consecutive even integers is 966. What is the third integer? 3 points

Assign Variables or Make Diagram	Write an Equation		Answer the Question
X 1st X+2 2nd X+4 3rd	Solve the Equation	$X + X+2 + X+4 = 966$ $3X+6 = 966$ $-6 \quad -6$ $\frac{3X}{3} = \frac{960}{3}$ $X = 320$	320 322 324

28. The sum of 3 consecutive multiples of six is 126. What is the product of the first two integers? 3 points

Assign Variables or Make Diagram	Write an Equation		Answer the Question
		$X + X+6 + X+12 = 126$	
$X \rightarrow 1^{st}$ $X+6 \rightarrow 2^{nd}$ $X+12 \rightarrow 3^{rd}$	Solve the Equation	$3X+18 = 126$ $-18 \quad -18$ $\frac{3X}{3} = \frac{108}{3}$ $X = 36$	36 42 48 36(42) 1512

29. The height of a rectangle is two more than three times base. The perimeter is 180 meters. What is the area of the rectangle? 3 points

$A = bh$

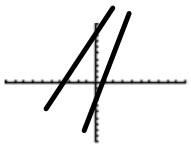
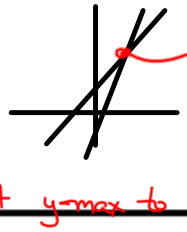
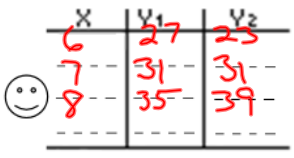
$P = 2b + 2h$

Assign Variables or Make Diagram	Write an Equation		Answer the Question
		$180 = 2X + 2(3X+2)$	
 $b = X$ $h = 3X+2$	Solve the Equation	$180 = 2X + 6X + 4$ $180 = 8X + 4$ $-4 \quad -4$ $\frac{176}{8} = \frac{8X}{8}$ $X = 22$	$b = 22$ $h = 3(22)+2 = 68$ $A = 22(68)$ $A = 1496 m^2$

Directions: Please solve the following equation using your graphing calculator. Be sure to fill out the graphic organizer. (5 points each) 4 points

14. Problem: $4x + 3 = 8x - 25$

Only do step 3 and 4 if you cannot see intersection in Step 2.

1. What did you type in this window?	2. Sketch your graph on Zoom 6	3. Readjust your window	4. Final Graph	5. Verify with the table.
Plot1 Plot2 Plot3 $Y_1 = 4X+3$ $Y_2 = 8X-25$ $Y_3 =$ $Y_4 =$ $Y_5 =$ $Y_6 =$ $Y_7 =$		WINDOW Xmin= -10 Xmax= 10 Xscl=1 Ymin= -10 Ymax= 40 Yscl=1 adjust y-max to go up	 $X = 7$	 X: 6, 7, 8 Y_1: 27, 31, 35 Y_2: 25, 31, 39

Click the link below for Video Support

http://ponderosa.wikispaces.com/Solving+Equations+-+TI-83+TI-84