ALGEBRA 2
#6 WKST

Name: _____
Period: _____

SOLVE EACH EQUATION. CHECK YOUR SOLUTION.

1. $z - 19 = 34$ $+19 \quad +19$ $z = 53$	2. $x + 13 = -7$ $-13 \quad -13$ $x = -20$	3. $-y + 9 = 23$ $-9 \quad -9$ $-y = 14$ $y = -14$
4. $-6z = 42$ $\frac{-6z}{-6} = \frac{42}{-6}$ $z = -7$	5. $5x - 3 = -33$ $+3 \quad +3$ $\frac{5x}{5} = \frac{-30}{5}$ $x = -6$	6. $-6y - 8 = 18$ $+8 \quad +8$ $\frac{-6y}{-6} = \frac{26}{-6}$ $y = -4\frac{1}{3}$ or $-4.3\overline{3}$
7. $3(2a + 3) - 4(3a - 6) = 15$ $6a + 9 - 12a + 24 = 15$ $-6a + 33 = 15$ $-33 \quad -33$ $-6a = -18$ $a = 3$	8. $5(c - 8) - 3(2c + 12) = -84$ $5c - 40 - 6c - 36 = -84$ $-1c - 76 = -84$ $+76 \quad +76$ $-1c = -8$ $c = 8$	9. $-3(-2x + 20) + 8(x + 12) = 92$ $6x - 60 + 8x + 96 = 92$ $14x + 36 = 92$ $-36 \quad -36$ $14x = 56$ $x = 4$
10. $-4(3y - 10) - 6(-7y - 6) = -74$ $-12y + 40 + 42y + 36 = -74$ $30y + 76 = -74$ $-76 \quad -76$ $30y = -150$ $y = -5$	11. $7y - 2y + 4 + 3y = -20$ $8y + 4 = -20$ $-4 \quad -4$ $8y = -24$ $y = -3$	12. $5g + 18 - 7g + 4g = 8$ $2g + 18 = 8$ $-18 \quad -18$ $2g = -10$ $g = -5$
13. $5(-2x - 4) - 3(4x + 5) = 97$ $-10x - 20 - 12x - 15 = 97$ $-22x - 35 = 97$ $+35 \quad +35$ $\frac{-22x}{-22} = \frac{132}{-22}$ $x = -6$	14. $-2(3y - 6) + 4(5y - 8) = 92$ $-6y + 12 + 20y - 32 = 92$ $14y - 20 = 92$ $+20 \quad +20$ $14y = 112$ $y = 8$	15. $\frac{2}{3}(6c - 18) + \frac{3}{4}(8c + 32) = -18$ $4c - 12 + 6c + 24 = -18$ $10c + 12 = -18$ $-12 \quad -12$ $10c = -30$ $c = -3$

16. $\frac{3}{5}(15a+5)-\frac{1}{6}(18a-12)=38$ $9a+3-3a+2=38$ $6a+5=38$ $-5 \quad -5$ $6a=33$ $a=5.5$	17. $5x-9=11x+3$ $-5x \quad -5x$ $-9=6x+3$ $-3 \quad -3$ $-12=6x$ $x=-2$	18. $\left(\frac{1}{y}+\frac{1}{4}=\frac{7}{12}\right)12y$ $\frac{12y}{y}+\frac{12y}{4}=\frac{84y}{12}$ then cancel or reduce $12+3y=7y$ $-3y \quad -3y$ $\frac{12}{4}=\frac{4y}{4} \quad y=3$
19. $5.4(3x-12)+3.2(2x+6)=88$ $16.2x-64.8+6.4x+19.2=88$ $22.6x-45.6=88$ $+45.6 \quad +45.6$ $\frac{22.6x}{22.6}=\frac{133.6}{22.6}$ $x=5.911\ldots$	20. $3(a-7)=5(a+3)$ $3a-21=5a+15$ $-3a-15 \quad -3a-15$ $\frac{-36}{2}=\frac{2a}{2}$ $a=-18$	21. $-6(2y+2)=18-4(-4y-9)$ $-12y-12=18+16y+36$ $-12y-12=16y+54$ $+12y-54 \quad +12y-54$ $66=28y$ $y=2.357\ldots$

Write an algebraic expression to represent each verbal expression.

22. the difference between the product of four and a number and six. $4x-6$	23. the product of the square of a number and eight. $8x^2$
24. fifteen less than the cube of a number. x^3-15	25. five more than the quotient of a number and four. $\frac{x}{4}+5$