Algebra 2

Topic 3 // Word Problems A

N Key
D:

P: 1 2 3 4 5 6

1 Jon has a total of 50 nickels and dimes. If the total value of the coins is $4.00, how many nickels and dimes does he have?

$n+d=50$

$100[.05n+.10d=4.00] \rightarrow -5(n+d=50)$

$5n+10d=400$

$-5n-5d=-250$

$5d=150$

$d=30$

$n+(30)=50$

$n=20$

2 Max has a total of 25 dimes and pennies. If the total value of the coins is $1.42, how many dimes and pennies does she have?

$d+p=25$

$100[.10d+.01p=1.42] \rightarrow -10(d+p=25)$

$10d+1p=142$

$-10d-10p=-250$

$-9p=-108$

$p=12$

$d+(12)=25$

$d=13$

3 The sum of two number is 47. One number is 5 more than the other. Find the two numbers.

$x+y=47$

$x=y+5$

$(y+5)+y=47$

$2y+5=47 \rightarrow 2y=42 \rightarrow y=21$

$x=(21)+5$

$x=26$

4 The sum of two number is 31. One number is 3 more than the other. Find the two numbers.

$x+y=31$

$x=y+3$

$(y+3)+y=31$

$2y+3=31$

$2y=28 \rightarrow y=14$

$x=(14)+3$

$x=17$

5 Kelly has a total of 50 nickels and dimes. If the total value of the coins is $2.60, how many nickels and dimes does he have?

$n+d=50$

$100[.05n+.10d=2.60] \rightarrow -5(n+d=50)$

$5n+10d=260$

$-5n-5d=-250$

$5d=10$

$d=2$

$n+(2)=50$

$n=48$

6 Vanessa has a total of 20 dimes and quarters. If the total value of the coins is $4.10, how many dimes and quarters. does she have?

$d+q=20$

$100[.10d+.25q=4.10] \rightarrow -10(d+q=20)$

$10d+25q=410$

$-10d-10q=-200$

$15q=210$

$q=14$

$d+(14)=20$

$d=6$

7 The sum of two number is 27. One number is 7 more than the other. Find the two numbers.

$x+y=27$

$x=y+7$

$(y+7)+y=27$

$2y+7=27 \rightarrow 2y=20 \rightarrow y=10$

$x=(10)+7$

$x=17$

8 The sum of two number is 100. One number is 10 more than the other. Find the two num-

$x+y=100$

$x=y+10$

$(y+10)+y=100$

$2y+10=100$

$2y=90 \rightarrow y=45$

$x=(45)+10$

$x=55$