Name: SAMPLE

Systems of Equations Word Problems Checkpoint

1) Tyrel and Dalia bought some pens and pencils. Tyrel bought 4 pens and 5 pencils which cost him $6.71. Dalia bought 5 pens and 3 pencils which cost her $7.12. How much does a pen cost and how much does a pencil cost?

$$(4x + 5y = 6.71)^{\times 3} \rightarrow 12x + 15y = 20.13$$
$$(5x + 3y = 7.12)^{\times 5} \rightarrow 25x + 15y = 35.60$$

$$25x + 15y = 35.60$$
$$- \quad 12x + 15y = 20.13$$
$$\frac{13x \qquad\qquad = 15.47}{\div 13 \qquad\qquad \div 13}$$

$$\boxed{pens = \$1.19}$$

$$4x + 5y = 6.71$$
$$4(1.19) + 5y = 6.71$$
$$5y = 1.95$$
$$\frac{5y}{\div 5} \qquad \frac{1.95}{\div 5}$$

$$\boxed{pencils = \$.39}$$

2) You have just enough money, in quarters and dimes, to pay for a loaf of bread priced at $1.95. You have 12 coins. How many dimes do you have; how many quarters?

$$10d + 25q = 195 \qquad\qquad 10d + 25q = 195$$
$$d + q = 12 \qquad\qquad -10d + 10q = 120$$
$$\frac{15q = 75}{\div 15 \quad \div 15}$$

$$\boxed{q = 5}$$

$$d + q = 12$$
$$d + 5 = 12$$
$$\boxed{d = 7}$$

3) You have $22 in your bank account and deposit $11.50 each week. At the same time your cousin has $218 but is withdrawing $13 each. After how many weeks will you and your cousin's account have the same amount

$$22 + 11.50x = 218 - 13x$$
$$+ 13x \qquad\qquad + 13x$$

$$22 + 24.5x = 218$$
$$-22 \qquad\qquad -22$$

$$24.5x = 196$$
$$\div 24.5 \qquad \div 24.5$$

$$\boxed{x = 8 \text{ weeks}}$$