

Systems of Equations: Lesson 5

Word Problems 1: Notes

Name: Answer Key!



There are 28 total cats and dogs at my pet daycare. The number of dogs is double the amount of cats minus two. How many dogs are at my daycare?

1st equation: $c + d = 28$

2nd equation: $d = (2c - 2)$

Substitute: $c + 2c - 2 = 28$

Simplify: $3c - 2 = 28 \rightarrow 3c = 30$

Solve: $c = 10$ cats

$\overset{10}{c} + d = 28$

$d = \underline{18}$ doggies

I have quarters and dimes in my pocket. I have 11 coins total, and the amount is \$1.85. How many of each coin do I have?

Number of items: $q + d = 11 \rightarrow q = 11 - d$

Value: $.25q + .10d = 1.85$

Substitute: $.25(11 - d) + .10d = 1.85$

Distribute: $2.75 - .25d + .10d = 1.85$

Solve: $-.15d = -0.9$

$d = \underline{6}$

$q = 11 - \overset{6}{d}$

$q = \underline{5}$

6 dimes &
5 quarters

You pay \$22 for 6 flowers, roses and daisies. A rose is \$4, and a daisy is \$2. How many of each flower did you buy?

Number: $r + d = 6 \rightarrow r = 6 - d$

Value: $4r + 2d = 22$

Substitute: $4(6 - d) + 2d = 22$

Distribute: $24 - 4d + 2d = 22$

Add like terms: $\begin{array}{r} 24 - 2d = 22 \\ -24 \quad -24 \end{array}$

Solve: $-2d = -2$

$d = 1$

$r = 6 - d$

$r = 5$

5 roses
1 daisy

