

Warm Up:

Mr. Bull was cleaning his couch and found some nickels and quarters. He found 16 coins which totaled \$3.40. How many nickels and quarters did he find?

$$n + q = 16$$

$$n = 16 - q$$

$$.05n + .25q = 3.40$$

$$5n + 25q = 340$$

$$5(16 - q) + 25q = 340$$

$$80 - 5q + 25q = 340$$

$$20q + 80 = 340$$

$$\begin{array}{r} 20q + 80 = 340 \\ -80 \quad -80 \\ \hline 20q = 260 \\ \hline 20 \end{array}$$

$$\begin{array}{l} q = 13 \\ n = 16 - 13 \\ n = 3 \end{array}$$

Review homework

23. 2 children, 9 adults

24. 2 buses, 4 vans

25. 18° , 72°

26. infinitely many solutions

27. infinitely many solutions

28. no solution

32. $2\ell + 2w = 34$

$$\ell = 2w + 5$$

4 cm by 13 cm

Solving by elimination/combination:

$$4x + 3y = 16$$

$$2x - 3y = 8$$

$$6x = 24$$

$$x = 4$$

$$2(4) - 3y = 8$$

$$y = 0$$

$$(4, 0)$$

$$a - b = 8$$

$$a + b = 20$$

$$2a = 28$$

$$a = 14$$

$$14 + b = 20$$

$$b = 6$$

$$4(3x+5y=6) \quad \left(-\frac{1}{2}, \frac{3}{2}\right)$$

$$3(-4x+2y=5)$$

$$12x+20y=24$$

$$-12x+6y=15$$

$$\hline 26y=39$$

$$y = \frac{3}{2}$$

$$-4x + 2\left(\frac{3}{2}\right) = 5$$

$$-4x + 3 = 5 \quad x = -\frac{1}{2}$$

$$(2g-3h=0) \cdot 3$$

$$(3g-2h=5) \cdot -2$$

$$6g-9h=0$$

$$-6g+4h=-10$$

$$\hline -5h = -10$$

$$h = 2$$

$$2g - 3(2) = 0$$

$$2g - 6 = 0$$

$$g = 3$$

$$3x + 2y = 8$$

$$\begin{array}{r} -3x \\ \hline 2y = 12 - 5x \end{array}$$

$$2y = 12 - 5x$$

$$2y = 8 - 3x$$

$$+2y = -12 + 5x$$

$$0 = -4 + 2x$$

$$4 = 2x$$

$$x = 2$$

$$y = 1$$

$$(2, 1)$$

$$2q = 7 - 5p$$

$$2(4p - q = 16)$$

$$5p + 2q = 7$$

$$8p - 2q = 32$$

$$13p = 39$$

$$p = 3$$

$$q = -4$$

$$\begin{array}{l}
 (2x+y=-4)^{-2} \\
 2y=-4x+2 \\
 +4x \quad +4x \\
 \hline
 4x+2y=2 \\
 -4x-2y=8 \quad \Delta \\
 \hline
 0=10 \\
 \emptyset
 \end{array}$$

$$\begin{array}{l}
 (x-3y=-6)^{-3} \\
 3x-9y=-18 \\
 -3x+9y=18 \\
 \hline
 0=0 \\
 \text{infinite solutions}
 \end{array}$$

There are 42 chickens and cows on a farm that altogether have 132 legs. How many chickens and cows are on the farm?

Variables: _____

Equations: _____

