1. Coats cost \$60 and pants cost \$40. You have \$1000 to spend.

Standard Form: $Ax + By = C$

a. Use x to represent coats and y to represent pants. Write an equation to represent the combinations that will spend all \$1000.

$$60x + 40y = 1000$$

b. Come up with a combination of coats and pants that will spend all \$1000.

$$60 \cdot 10 + 40 \cdot 10$$
$$600 + 400$$
$$1000$$
$$(10, 10) \checkmark$$

Coats (x)   Pants (y)

$$(6, 16) \checkmark$$
$$60(6) + 40(16)$$
$$360 + 640$$
$$1000$$

2. Determine which of the following ordered pairs are solutions to the equation $4x + 3y = 24$.

✓ a. (-3, 12)

✗ b. (0, 4)

✗ c. (4, 3)

✓ d. (6, 0)

✓ e. (12, -8)

$4(-3) + 3(12) = 24$
$-12 + 36 = 24$

$4(0) + 3(4) = 24$
$0 + 12 = 12$

$4(4) + 3(3) = 24$
$16 + 9 = 25$

$4(6) + 3(0)$
$24 + 0 = 24$

$4(12) + 3(-8)$
$48 + -24$
24

3. Using the equation $4x + 3y = 24$, fill in the blank for $(3, \underline{4})$

(x, y)

$4(3) + \underline{(3y)} = 24$

$12 + \underline{(12)} = 24$

$3(4) = 12$

$(\underline{4.5}, 2)$

$4x + 3(2) = 24$

$4x + 6 = 24$

$\underline{-6 \quad -6}$

$\dfrac{4x}{4} = \dfrac{18}{4}$

$x = 4.5$

4. Alex is buying lunch for her friends. She buys everyone burgers and fries. Each burger costs $6 and each order of fries costs $2. Alex has a total of $30 to spend.

    a. Complete the table to show possible combinations of burgers and fries Alex could buy that would spend ALL of her money.

Burgers	1 $6	3 $18	4 $24	5 $30
Fries	12 +$24	6 $12	3 $6	0 $0

$30 $30 $30 $30

    b. If burgers are represented by x and fries are represented by y, write an equation to represent the situation showing Alex has $30 to spend.

$$6x + 2y = 30$$