"What is it called when you've heard this bull before?"

Solve the following systems using the addition/elimination method. The answer to each problem will match a letter that will allow you to figure out the joke.

1. $2x + 3y = 5$
   $x - 3y = 1$

2. $4x - 5y = 7$
   $4x - 3y = 3$

3. $2y = 3x - 11$
   $2y = -2x + 4$

4. $2x - 3y = 13$
   $x - y = -5$

5. $2x - y = 8$
   $-4x + 6y = -16$

6. $4x - 7y = -13$
   $-3y - 5 = -7x$

7. $9x = 21 - 7y$
   $12y = 36 - x$

A: $(-28, -23)$

E: $(2, \frac{1}{3})$

O: $(4, 0)$

I: $(1, 3)$

S: $(7, -2)$

M: $(3, -1)$

J: $(2, 3)$

D: $(0, 3)$

T: $(-1, 0)$

O: $(-\frac{3}{4}, -2)$

R: $(-20, -13)$

V: $(5, -2)$

$$\overline{}\ \overline{}\ \overline{}\ \overline{}\ \overline{-}\ \overline{}\ \overline{}\ \overline{}$$
$$\ \ 7\quad 1\quad 6\quad 4\qquad\ \ 3\quad 5\quad 2$$

Answer: _____

"What did the police charge the Energizer Bunny® with?"

Solve the following systems using the substitution method. The answer to each problem will match a letter that will allow you to figure out the joke.

1. $2x + y = 8$
  $y = x - 1$

2. $x = -4y + 3$
  $2x + 5y = 6$

3. $y = 5x + 7$
  $y = -3x - 1$

4. $5x - y = 12$
  $y = 2x - 9$

5. $2x + y = 8$
  $3x - 4y = 12$

6. $2x - 4y = -6$
  $x - 2y = -3$

7. $6x + 3y = 18$
  $5x + 2y = 6$

I: $(3, 1)$

B: $(-6, 18)$

C: No Solution

Y: $(1, -7)$

A: $(3, 0)$

T: $(3, 2)$

S: $(-2, 2)$

W: $(1, 5)$

E: $\left\{ x \mid y = \dfrac{1}{2}x + \dfrac{3}{2} \right\}$

T: $(4, 0)$

V: $(2, 0)$

R: $(-1, 2)$

$$\overline{}_{7} \ \overline{}_{2} \ \overline{}_{5} \ \overline{}_{1} \ \overline{}_{6} \ \overline{}_{3} \ \overline{}_{4}$$

Answer: _____

"What do you call someone with a great sense of rumor?"

Solve the following systems. The answer to each problem will match a letter that will allow you to figure out the joke.

1. $3x + y + 2z = 8$
$x + 2y - z = 1$
$2x + y + 3z = 5$

2. $x - 6y + 2z = -24$
$2x - 3y - 4z = 12$
$2x + 3y - 6z = 42$

3. $2x + z = 16$
$x - 2y = 14$
$2y + 2z = 12$

4. $-x + 2y - 3z = -8$
$2x + 3y + z = -3$
$-2x - y + 2z = 2$

5. $-x - y + z = 4$
$2x + 3y - z = -7$
$-3x + 2y + 3z = 7$

6. $2x - 3y + z = 10$
$-3x + y - 2z = -9$
$-x + 2y + 3z = 1$

S: $(-1, -1, 2)$

T: $(1, 0, 2)$

P: $(1, -2, 1)$

I: $(6, 4, -3)$

R: $(3, -1, 1)$

G: $(1, -2, 2)$

E: $(5, 0, -2)$

A: $(3, -1, 0)$

O: $(2, -6, 12)$

H: $(2, 1, 1)$

W: $(4, 4, 1)$

U: $(0, 0, 3)$

Optional Tough Problem

Solve: $3a + 4b - 5c + 3d = 19$
$-2a - 3b + 4c - 2d = -14$
$5a + 2b + 3c - 2d = 4$
$-3a + 3b - 2c + 4d = 9$

$\overline{\quad}$ $\overline{\quad}$ $\overline{\quad}$ $\overline{\quad}$ $\overline{\quad}$ $\overline{\quad}$ $\overline{\quad}$
1   6   3   5   5   2   4

Answer: _____