Solving systems of linear equations

$$z + w - 3 = k$$
$$6z - 10w = 8$$

Consider the system of equations above, where k is a constant. For which value of k are there infinitely many (w, z) solutions?

A $-\frac{19}{5}$

B 5

C 8

D None of the above

$$-5x - 4y = 2a$$
$$4x - 5y = 2$$

Which of the following choices of a will result in a system of linear equations with exactly one solution?

A a can be any number

B a can be any number except 0.8

C a can be any number except -0.8

D $a = 0.8$

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

Consider the system of equations above. Which of the following statements about this system is true?

A There is only one (x, y) solution and $x + y$ is positive.

B There is only one (x, y) solution and $x + y$ is negative.

C There are infinitely many (x, y) solutions.

D There are no (x, y) solutions.

Solving systems of linear equations

$$\begin{aligned}\frac{2}{3}(x+1)-\frac{4}{5}y &= \frac{1}{3}\\ \frac{2}{5}x+\frac{1}{3}(2y+1) &= \frac{1}{5}\end{aligned}$$

Consider the system of equations above. Which of the following statements is true?

A There is only one solution (x, y) and $x + y$ is positive.

B There is only one solution (x, y) and $x + y$ is negative.

C There are infinitely many solutions.

D There are no solutions.

$$\begin{aligned}1.70p-0.34q &= 0\\ 0.17(q+1)-0.85(p-1) &= 0\end{aligned}$$

Consider the system of equations above. How many (p, q) solutions does this system have?

A 0

B 1

C Infinitely many

D None of the above