

WORKSHEET

CLASSIFYING SYSTEM OF EQUATIONS ACCORDING TO NUMBER OF SOLUTIONS

Determine the number of solutions the system has. Then state whether the system of equations is *consistent* or *inconsistent* and if it is *independent* or *dependent*.

Consistent and independent

$$\begin{aligned} y &= \frac{1}{2}x \\ y &= x + 2 \end{aligned}$$

$$\begin{aligned} 2x + 3y &= 10 \\ 4x + 6y &= 12 \end{aligned}$$

Consistent and dependent

$$\begin{aligned} 4x - 6y &= 12 \\ -2x + 3y &= -6 \end{aligned}$$

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

Inconsistent

$$\begin{aligned} 8x - 4y &= 16 \\ -5x - 5y &= 5 \end{aligned}$$

$$\begin{aligned} y &= x - 3 \\ y &= -4x + 3 \end{aligned}$$