

**Enunciados**

Estudia la posición relativa de los siguientes pares de rectas.

$$\textcircled{1} \quad r \equiv (x,y) = (2,-1) + \lambda(1,6); s \equiv y = 6x - 11$$

$$\textcircled{2} \quad t \equiv \begin{cases} x = 1 - 7\lambda \\ y = 2 + 3\lambda \end{cases}; w \equiv 6x + 16y - 5 = 0$$

$$\textcircled{3} \quad z \equiv \frac{x-9}{11} = \frac{y-6}{7}; d \equiv y = \frac{7}{11}x + \frac{3}{11}$$

$$\textcircled{4} \quad r \equiv 10x + 14y + 1 = 0; s \equiv 15x + 21y + 1 = 0$$

$$\textcircled{5} \quad t \equiv \begin{cases} x = 7 + 4\lambda \\ y = 12 + 5\lambda \end{cases}; w \equiv \frac{x+1}{4} = \frac{y-2}{5}$$

$$\textcircled{6} \quad z \equiv 14x - 12y + 11 = 0; d \equiv y = \frac{7}{6}x$$

$$\textcircled{7} \quad r \equiv \frac{x+11}{13} = \frac{y+22}{15}; s \equiv 15x - 14y + 3 = 0$$

$$\textcircled{8} \quad t \equiv \begin{cases} x = 11 + \lambda \\ y = 15 - \lambda \end{cases}; w \equiv x + y - 26 = 0$$

$$\textcircled{9} \quad z \equiv \frac{x+3}{6} = \frac{y+1}{13}; d \equiv 13x - 6y - 34 = 0$$

$$\textcircled{10} \quad r \equiv (x,y) = (15,28) + \lambda(5,9); s \equiv y = \frac{9}{5}x + 1$$

$$\textcircled{11} \quad t \equiv \begin{cases} x = 57 + 11\lambda \\ y = 31 + 17\lambda \end{cases}; w \equiv \begin{cases} x = -20 + 11\lambda \\ y = -88 + 17\lambda \end{cases}$$

$$\textcircled{12} \quad z \equiv 15x + 25y + 13 = 0; d \equiv y = \frac{3}{5}x + 4$$

$$\textcircled{13} \quad r \equiv \frac{x+1}{9} = \frac{y-1}{11}; s \equiv 11x - 9y + 2 = 0$$

$$\textcircled{14} \quad t \equiv \begin{cases} x = -7 + 4\lambda \\ y = -1 + 7\lambda \end{cases}; w \equiv \frac{x+11}{4} = \frac{y-11}{9}$$

$$\textcircled{15} \quad z \equiv y = 2x + 4; d \equiv 2x + y + 4 = 0$$

$$\textcircled{16} \quad r \equiv (x,y) = (6,-2) + \lambda(-7,3); s \equiv y = -\frac{3}{7}x + \frac{4}{7}$$

$$\textcircled{17} \quad t \equiv 3x + 4y + 3 = 0; w \equiv 4x + 3y + 1 = 0$$

$$\textcircled{18} \quad z \equiv 14x - 7y + 1 = 0; d \equiv y = 2x + 1$$

$$\textcircled{19} \quad r \equiv (x,y) = (-1,-2) + \lambda(5,-1); s \equiv y = -\frac{1}{5}x + \frac{9}{5}$$

$$\textcircled{20} \quad t \equiv \begin{cases} x = 21 + 8\lambda \\ y = 12 + 7\lambda \end{cases}; w \equiv 7x + 8y + 15 = 0$$

$$\textcircled{21} \quad z \equiv 2x + y + 2 = 0; d \equiv \frac{x-11}{1} = \frac{y+24}{-2}$$

## **Soluciones**

- ① Paralelas
- ② Secantes
- ③ Coincidentes
- ④ Paralelas
- ⑤ Coincidentes
- ⑥ Paralelas
- ⑦ Secantes
- ⑧ Coincidentes
- ⑨ Paralelas
- ⑩ Coincidentes
- ⑪ Coincidentes
- ⑫ Secantes
- ⑬ Paralelas
- ⑭ Secantes
- ⑮ Secantes
- ⑯ Coincidentes
- ⑰ Secantes
- ⑱ Paralelas
- ⑲ Paralelas
- ⑳ Secantes
- ㉑ Coincidentes