Zadatak 4. Napiši jednadžbu pravca koji prolazi točkama A i B ako je:

1) $A(0,5)$, $B(1,1)$;
2) $A(-2,2)$, $B(3,-3)$;
3) $A(1,4)$, $B(5,4)$;
4) $A(-3,-2)$, $B(1,0)$;
5) $A(1,-2)$, $B(4,-11)$;
6) $A(-3,20)$, $B(-3,-8)$.

Rješenje. **1)** $A(0,5)$, $B(1,1)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y-5=\frac{1-5}{1-0}(x-0)$$
$$y-5=\frac{-4}{1}\cdot x$$
$$y=-4x+5 \quad \rightarrow \text{eksplicitni oblik}$$
$$4x+y-5=0 \quad \rightarrow \text{implicitni oblik}$$

2) $A(-2,2)$, $B(3,-3)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y-2=\frac{-3-2}{3+2}(x+2)$$
$$y-2=\frac{-5}{-5}\cdot(x+2)$$
$$y-2=-x-2$$
$$y=-x \quad \rightarrow \text{eksplicitni oblik}$$
$$x+y=0 \quad \rightarrow \text{implicitni oblik}$$

3) $A(1,4)$, $B(5,4)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y-4=\frac{4-4}{5-1}(x-1)$$
$$y-4=0 \quad \rightarrow \text{implicitni oblik}$$
$$y=4 \quad \rightarrow \text{eksplicitni oblik}$$

4) $A(-3,-2)$, $B(1,0)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y+2=\frac{0+2}{1+3}(x+3)$$
$$y+2=\frac{2}{4}\cdot(x+3)$$
$$y=\frac{1}{2}x+\frac{3}{2}-2$$
$$y=\frac{1}{2}x-\frac{1}{2} \quad \rightarrow \text{eksplicitni oblik}$$
$$2y=x-1$$
$$x-2y-1=0 \quad \rightarrow \text{implicitni oblik}$$

5) $A(1,-2)$, $B(4,-11)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y+2=\frac{-11+2}{4-1}(x-1)$$
$$y+2=\frac{-9}{3}\cdot(x-1)$$
$$y+2=-3x+3$$
$$y=-3x+1 \quad \rightarrow \text{eksplicitni oblik}$$
$$2y=x-1$$
$$3x+y-1=0 \quad \rightarrow \text{implicitni oblik}$$

6) $A(-3,20)$, $B(-3,-8)$;

$$y-y_1=\frac{y_2-y_1}{x_2-x_1}(x-x_1)$$
$$y-20=\frac{-8-20}{-3+3}(x+3)$$
$$y-20=\frac{-28}{0}\cdot(x+3) \implies \text{nije definiran nagib pravca}$$
$$\implies =x+3=0$$
$$x=-3 \quad \rightarrow \text{eksplicitni oblik}$$
$$2y=x-1$$
$$x+3=0 \quad \rightarrow \text{implicitni oblik}$$