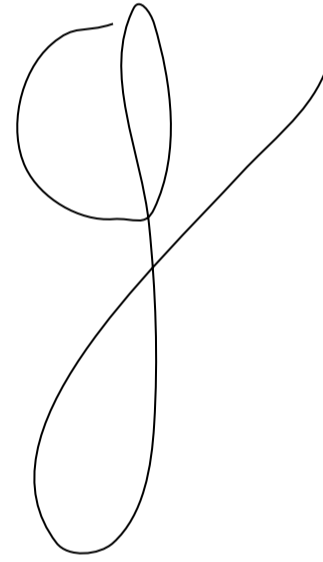
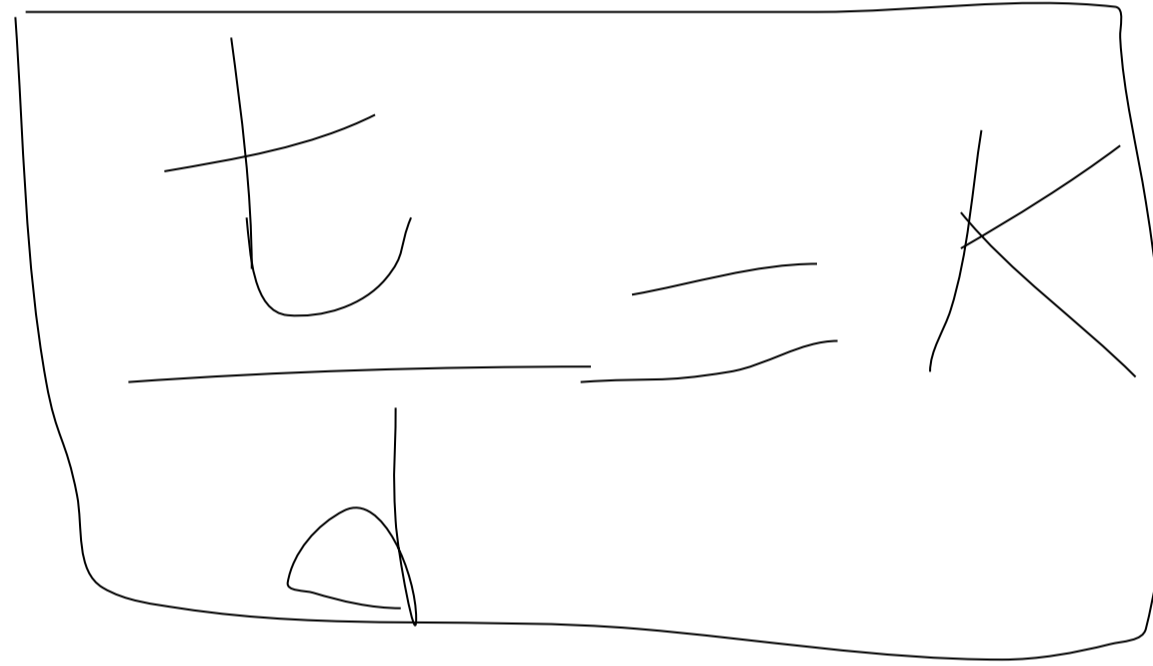
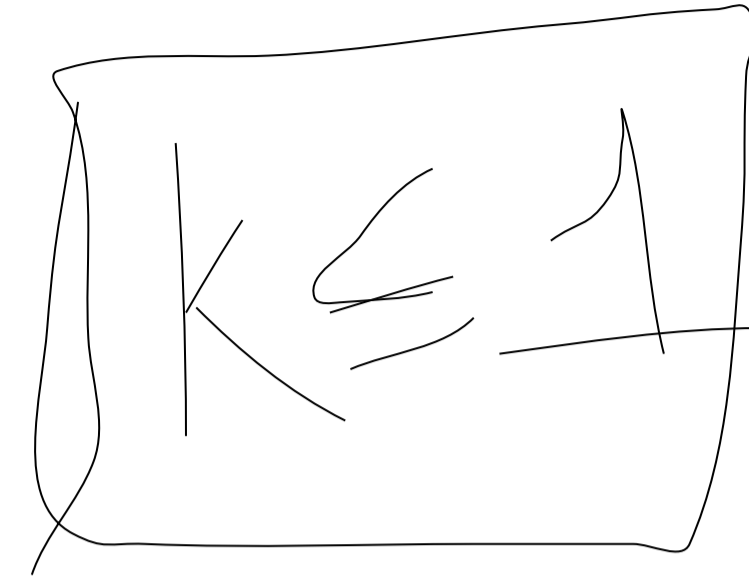
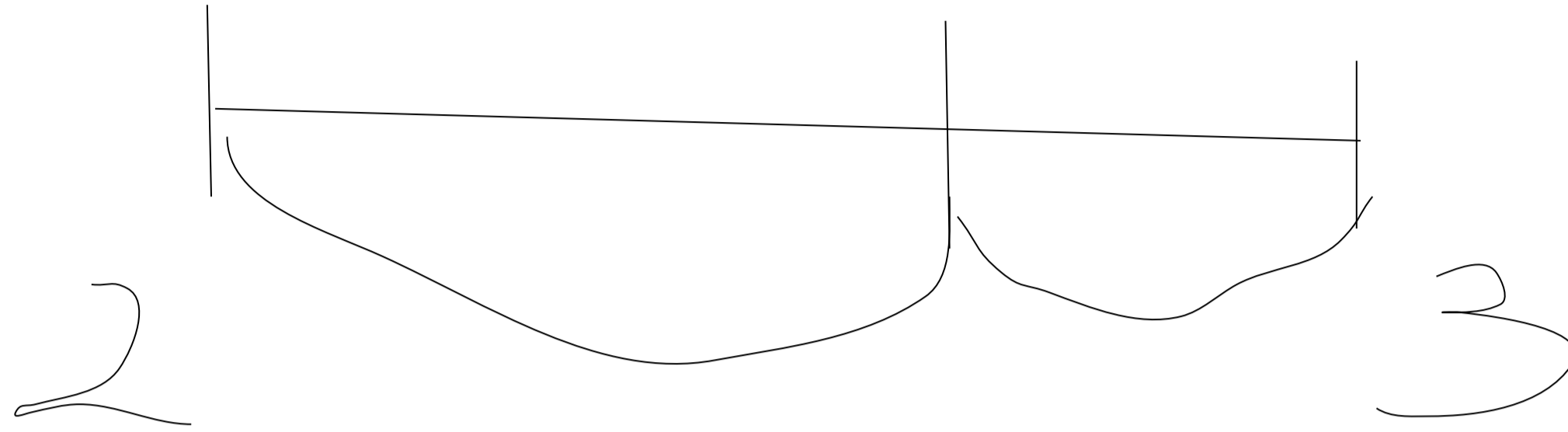


Рисование прямой по 2-м точкам и отрезка по 2-м точкам



$$(i+1)*t+i*d=g$$

$$t>d$$

$$t \ t \ d \ t \ t \ t \ t \ d$$

$$t \ t \ d$$

$$nt/md > 1 \rightarrow d$$

$$nt/md < 1 \rightarrow t$$

```
void vector(int x1, int y1, int x2,int y2, struct point shade)
{
    paintpoint(x1,y1,shade);
    paintpoint(x2,y2,shade);
    int vx, vy;
    vx=x2-x1;
    vy=y2-y1;
    double d;
    d=sqrt(vx*vx+vy*vy);
    double px,py;
    px=vx/(7*d);
    py=vy/(7*d);
    int i=1;
    double x,y,dp;
    while(1)
    {
        x=x1+i*px;
        y=y1+i*py;
        dp=sqrt(i*px*i*px+i*py*i*py);
        if(dp<=d)
        {
            paintpoint(round(x),round(y),shade);
        }
        else
            break;
        i++;
    }
}
```

A(x1,y1)
 B(x2,y2)
 AB{x2-x1;y2-y1} Декартовы=Смещения
 $|AB|=V[(x2-x1)^2+(y2-y1)^2]$
 $p\{(x2-x1)/(|AB|),(y2-y1)/(|AB|)\}$

AB{длина;направление} Полярные

$(x1,y1)+p\}$ =(конец p)
 $(x1,y1)+2p\}$ =(конец 2p)

$$|p|^2=[(x2-x1)/(|AB|)]^2 + [(y2-y1)/(|AB|)]^2 = [(x2-x1)^2+(y2-y1)^2] / |AB|^2 = |AB|^2 / |AB|^2 = 1$$

$$p\{(x2-x1)/(|AB|),(y2-y1)/(|AB|)\}$$

$$p\{p1;p2\}=\{x-x1;y-y1\}$$

$$x=x1+p1$$

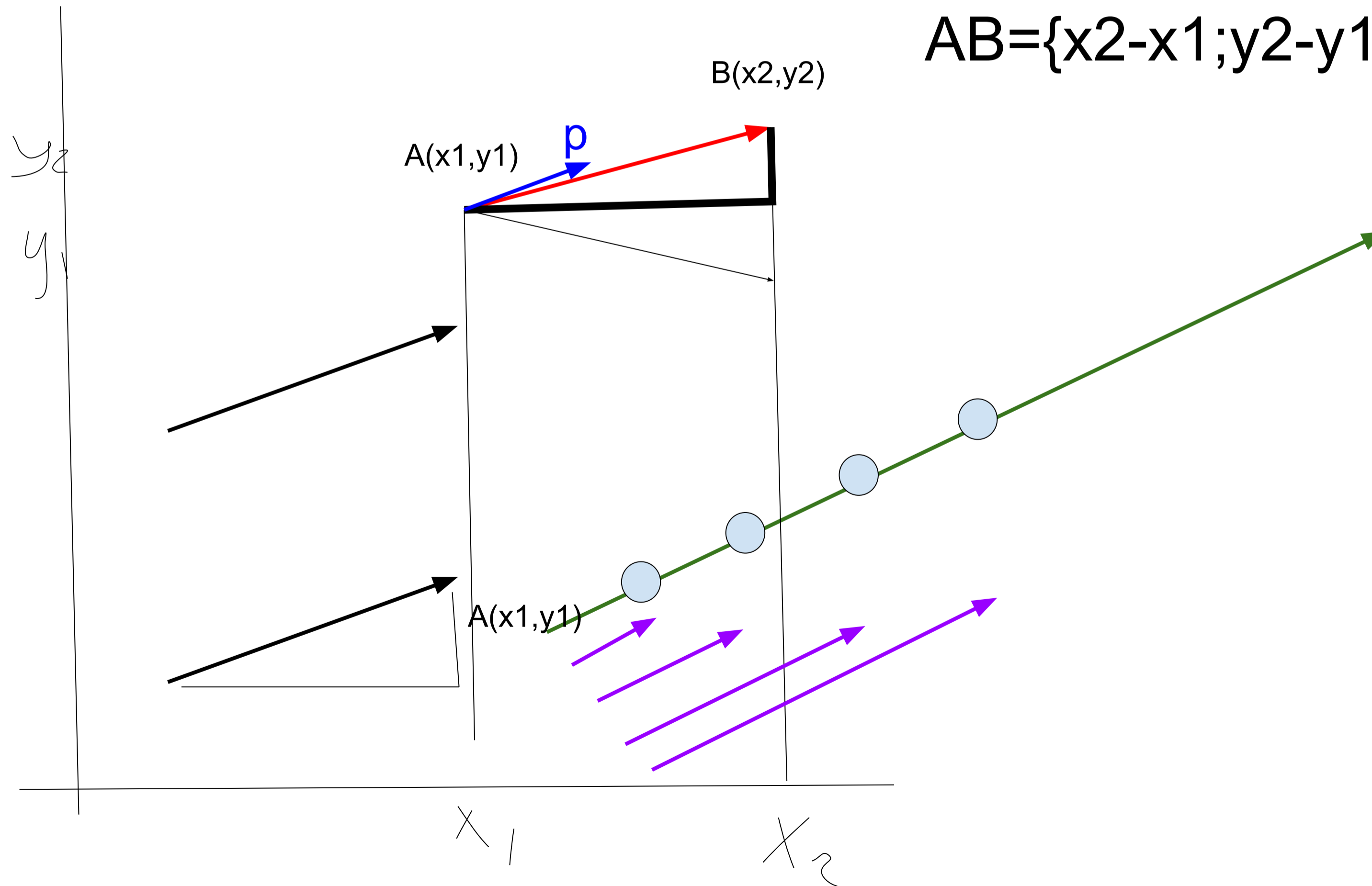
$$y=y1+p2$$

$$p\{2p1;2p2\}=\{x-x1;y-y1\}$$

$$x=x1+2p1$$

$$y=y1+2p2$$

$$AB=\{x2-x1;y2-y1\}$$



```
void vector_prym(int x1, int y1, int x2,int y2, struct point shade)
{
    paintpoint(x1,y1,shade);
    paintpoint(x2,y2,shade);
    int vx, vy;
    vx=x2-x1;
    vy=y2-y1;
    double d;
    d=sqrt(vx*vx+vy*vy);
    double px,py;
    px=vx/(7*d);
    py=vy/(7*d);
    int i=1;
    double x,y;
    while(1)
    {
        x=x1+i*px;
        y=y1+i*py;
        if(y<=HEIGHT && x<=WIDTH && y>=1 && x>=1)
            paintpoint(round(x),round(y),shade);
        else
            break;
        i++;
    }
    i=1;
    while(1)
    {
        x=x1-i*px;
        y=y1-i*py;
        if(y<=HEIGHT && x<=WIDTH && y>=1 && x>=1)
            paintpoint(round(x),round(y),shade);
        else
            break;
        i++;
    }
}
```