



# CAMI Wiskunde: Graad 11

## GRAAD 11 Analitiese Meetkunde

### 11.8 Parallel en loodregte lyne

#### 1. Parallel en loodregte lyne.

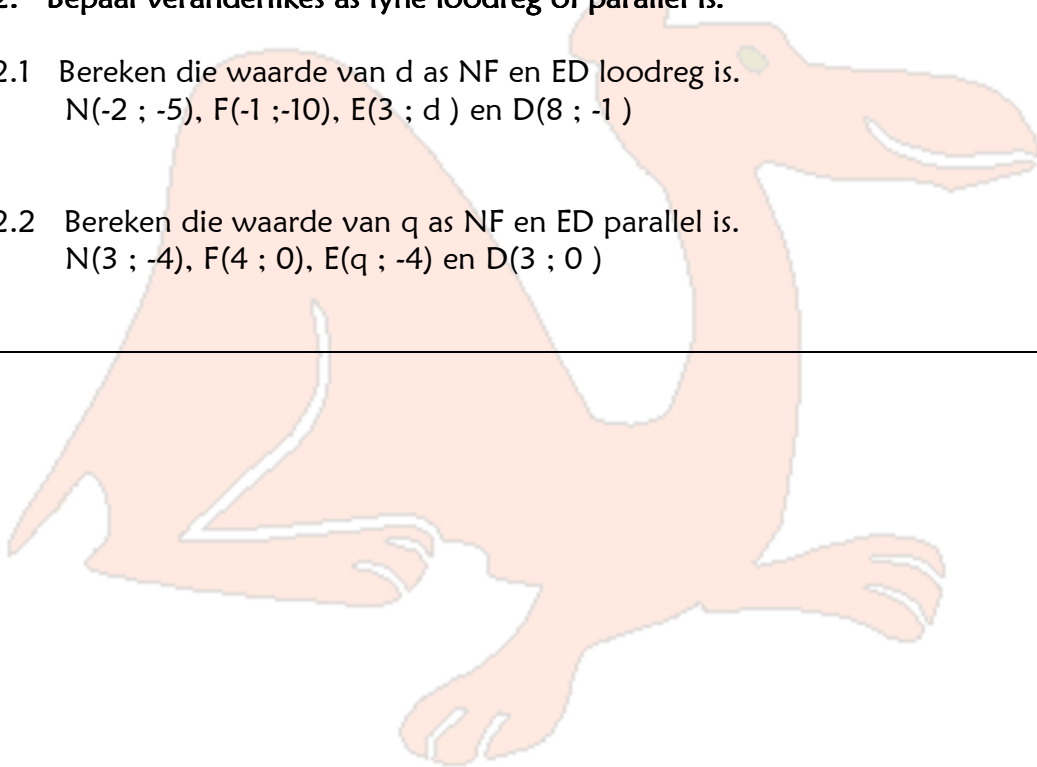
1.1 Bereken die gradient van BC en DE en bepaal of die lyne parallel of loodreg is as  $B(-3;3)$ ,  $C(1;5)$ ,  $D(2;3)$  en  $E(0;-1)$  gegee is.

1.2 Bereken die gradient van AB en CD en bepaal of die lyne parallel of loodreg is as  $A(-1;3)$ ,  $B(2;7)$ ,  $C(4;-5)$  en  $D(8;-8)$  gegee is.

#### 2. Bepaal veranderlikes as lyne loodreg of parallel is.

2.1 Bereken die waarde van  $d$  as NF en ED loodreg is.  
 $N(-2 ; -5)$ ,  $F(-1 ; -10)$ ,  $E(3 ; d)$  en  $D(8 ; -1)$

2.2 Bereken die waarde van  $q$  as NF en ED parallel is.  
 $N(3 ; -4)$ ,  $F(4 ; 0)$ ,  $E(q ; -4)$  en  $D(3 ; 0)$





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## MEMO

### 1. Parallel en loodregte lyne. [8.8.4.1]

$$1.1 \quad m_{BC} = \frac{2}{4} = \frac{1}{2} \quad \text{en} \quad m_{DE} = \frac{-4}{-2} = 2$$

$$m_{BC} \neq m_{DE}$$

BC nie parallel aan DE

$$m_{BC} \times m_{DE} \neq -1$$

BC nie loodreg op DE.

$$1.2 \quad m_{AB} = \frac{4}{3} \quad \text{en} \quad m_{CD} = \frac{-3}{4}$$

$$m_{AB} \neq m_{CD}$$

AB nie parallel aan CD

$$m_{AB} \times m_{CD} = \frac{4}{3} \times \frac{-3}{4} = -1$$

AB  $\perp$  CD

### 2. Bepaal veranderlikes as lyne loodreg of parallel is.

$$2.1 \quad N(-2 ; -5), F(-1 ; -10), E(3 ; d) \text{ en } D(8 ; -1)$$

$$m_{NF} = \frac{-5}{1} = -5 \quad \text{en} \quad m_{ED} = \frac{1}{5}$$

$$\frac{1}{5} = \frac{-1-d}{8-3}$$

$$-1-d=1$$

$$\therefore d = -2$$

$$2.2 \quad N(3 ; -4), F(4 ; 0), E(q ; -4) \text{ and } D(3 ; 0)$$

$$m_{NF} = \frac{4}{1} = 4 \quad \text{en} \quad m_{ED} = 4$$



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$$4 = \frac{0+4}{3-q}$$
$$12 - 4q = 4$$
$$\therefore q = 2$$

