

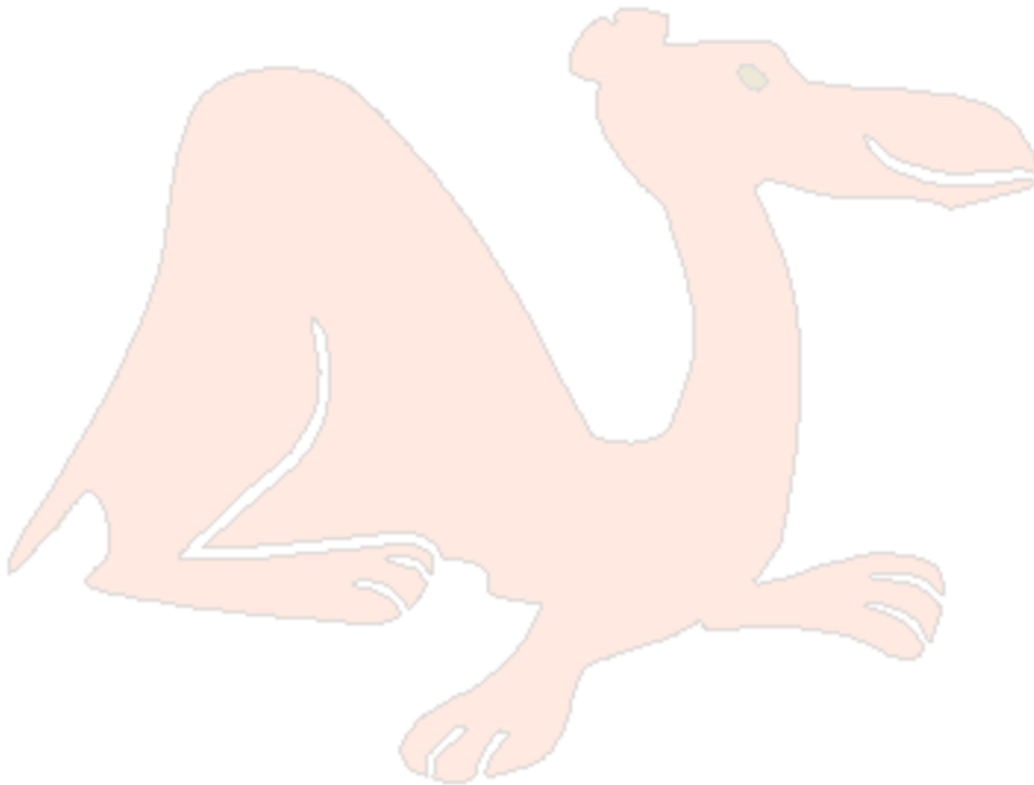


CAMI Wiskunde: Graad 10

GRADE 11 CAPS Curriculum

11.8 Collinear points

1. Determine whether the points $D(6;4)$, $E(2;1)$ and $F(3;5)$ are collinear .
2. Determine whether the points $A(5;7)$, $B(7;1)$ and $C(2;2)$ are collinear.
3. Determine whether the points $U(5;1)$, $V(7;1)$ and $W(5;8)$ are collinear.
4. If $T(5;9)$, $U(7;7)$ and $V(12;a)$ are collinear, calculate the value of a .
5. If $C(a;1)$, $D(4;4)$ and $E(6;6)$ are collinear, calculate the value of a .





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MEMO

1. [8.8.7]

$$m_{DE} = \frac{1-4}{2-9}$$

$$m_{DE} = \frac{-3}{-7}$$

$$m_{DE} = \frac{3}{7}$$

$$m_{EF} = \frac{5-1}{3-2}$$

$$m_{EF} = \frac{4}{1}$$

$$m_{EF} = 4$$

$$m_{DE} \neq m_{EF}$$

D, E and F not collinear.

2.

$$m_{AB} = \frac{1-7}{7-5}$$

$$m_{AB} = -3$$

$$m_{BC} = \frac{2-1}{2-7}$$

$$m_{BC} = \frac{1}{-5}$$

$$m_{AB} \neq m_{BC}$$

A, B and C not collinear.

3.

$$m_{UV} = \frac{1-1}{7-5}$$

$$m_{UV} = 0$$

$$m_{VW} = \frac{8-1}{5-7}$$

$$m_{VW} = \frac{7}{-2}$$

$$m_{UV} \neq m_{VW}$$

U, V and W not collinear.

4.

$$m_{TU} = \frac{7-9}{7-5} = -1 \quad \text{and} \quad m_{UV} = \frac{a-7}{12-7} = \frac{a-7}{5}$$



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$$-1 = \frac{a-7}{5}$$

$$-5 = a-7$$

$$a = 2$$

5.

$$m_{DE} = \frac{6-4}{6-4} = 1$$

and

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

$$1 = \frac{3}{4-a}$$

$$3 = 4-a$$

$$a = 1$$

