

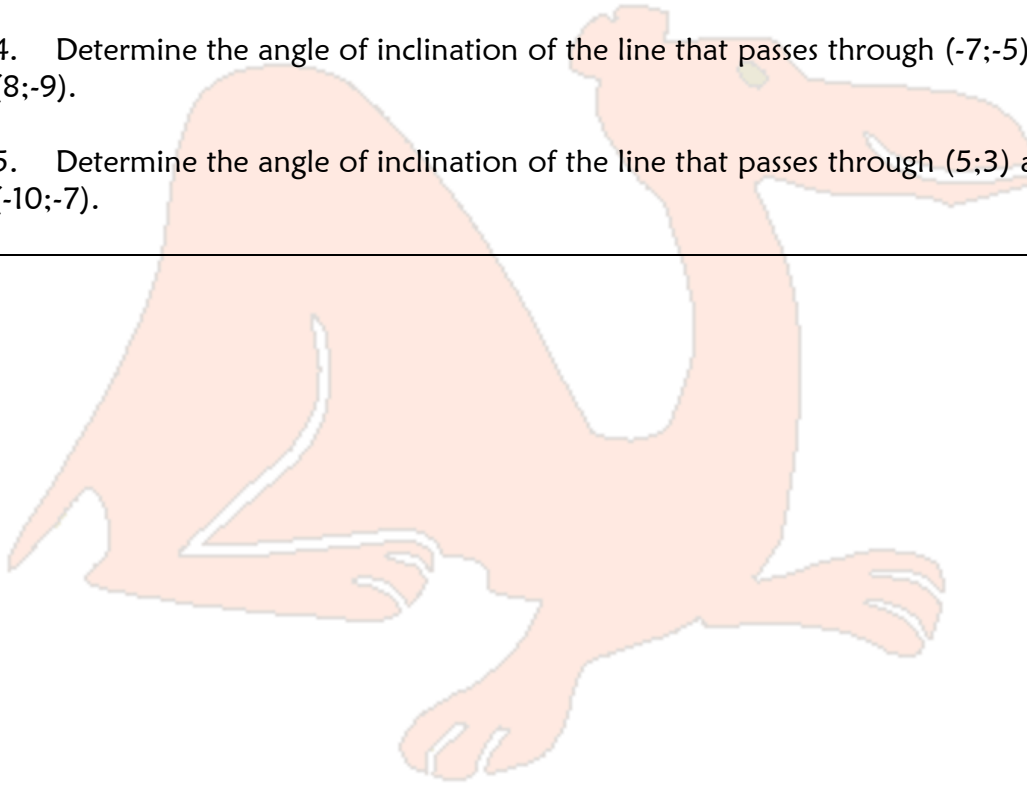


# CAMI Mathematics: Grade 11

## GRADE 11\_Inclination of a line

### 11.8 Inclination of a line

1. Determine the angle of inclination of the line that passes through (7;10) and (8;-6).
2. Determine the angle of inclination of the line that passes through (5;-7) and (1;-6).
3. Determine the angle of inclination of the line that passes through (-10;9) and (-7;-1).
4. Determine the angle of inclination of the line that passes through (-7;-5) and (8;-9).
5. Determine the angle of inclination of the line that passes through (5;3) and (-10;-7).





# CAMI Mathematics: Grade 11

## MEMO

### Inclination angle [8.8.3.3]

1. (7;10) and (8;-6)

$$\tan \theta = \frac{-6-10}{8-7} = \frac{-16}{1}$$

$$\theta = 180^\circ - \tan^{-1}(16) = 93,58^\circ$$

2. (5;-7) and (1;-6)

$$\tan \theta = \frac{-6-(-7)}{1-5} = \frac{1}{-4}$$

$$\theta = 180^\circ - \tan^{-1}\left(\frac{1}{4}\right) = 165,96^\circ$$

3. (-10;9) and (-7;-1)

$$\tan \theta = \frac{-1-9}{-7-(-10)} = \frac{-10}{3}$$

$$\theta = 180^\circ - \tan^{-1}\left(\frac{10}{3}\right) = 106,70^\circ$$

4. (-7;-5) and (8;-9)

$$\tan \theta = \frac{-9-(-5)}{8-(-7)} = \frac{-4}{15}$$

$$\theta = 180^\circ - \tan^{-1}\left(\frac{4}{15}\right) = 165,07^\circ$$

5. (5;3) and (-10;-7)

$$\tan \theta = \frac{-7-3}{-10-5} = \frac{-10}{-15} = \frac{2}{3}$$

$$\theta = \tan^{-1}\left(\frac{2}{3}\right) = 33,69^\circ$$

