

26th January



Corbettmaths

Factorise  $6x^2 + 13x + 6$ 

$$(3x + 2)(2x + 3)$$

A circle has equation  
 $(x - 9)^2 + (y + 4)^2 = 36$

Write down the equations of three  
 tangents to the circle.

$$\text{Centre } (9, -4)$$

$$r = 6$$

Four possible tangents (lots more)

$$x = 3, \quad x = 15$$

$$y = 2, \quad y = -10$$

$$y = \frac{x^8}{2} + \frac{x^6}{3}$$

$$y = \frac{1}{2}x^8 + \frac{1}{3}x^6$$

Simplify your answer

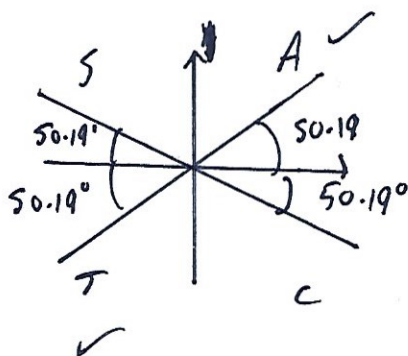
Work out  $\frac{dy}{dx}$

$$\frac{dy}{dx} = 4x^7 + 2x^5$$

Solve  $5\sin x = 6\cos x$   
 for  $0^\circ \leq x \leq 360^\circ$

$$5\tan x = 6$$

$$\tan x = \frac{6}{5} \quad \tan^{-1} \frac{6}{5} = 50.19^\circ$$



$$x = 50.19^\circ, \quad 230.19^\circ$$