

5th December



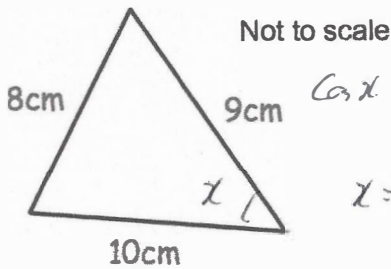
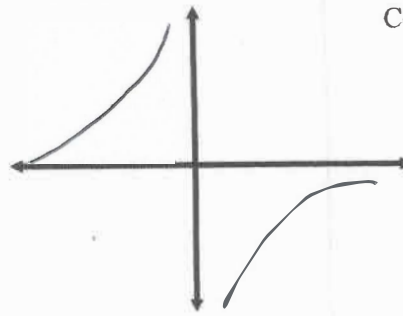
Corbettmaths

How many points of intersection do the graphs below have?

$x^2 + y^2 = 36$ A circle with centre (0,0) and radius 6

$y = -\frac{1}{x}$ Shown ->

4



Not to scale
 $\cos x = \frac{9^2 + 10^2 - 8^2}{2 \times 9 \times 10}$

$x = 49.458$

Calculate the area of the triangle

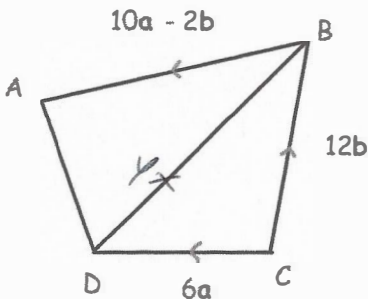
$\frac{1}{2} \times 10 \times 9 \times \sin 49.458$

34.197 cm^2

Evaluate

$(32x^{20})^{\frac{3}{5}}$

$8x^{12}$



ABCD is a quadrilateral

Y is a point on DB such that $DY:YB = 1:2$

$\vec{CA} = 12\underline{b} - 2\underline{b} + 10\underline{a}$
 $= 10\underline{b} + 10\underline{a}$

Prove

$\vec{CY} = \frac{2}{5} \vec{CA}$

$\vec{DB} = -6\underline{a} + 12\underline{b}$

$\vec{DY} = -2\underline{a} + 4\underline{b}$

$\vec{YB} = -4\underline{a} + 8\underline{b}$

$\vec{CY} = 6\underline{a} - 2\underline{a} + 4\underline{b}$

$= 4\underline{a} + 4\underline{b}$

$\frac{2}{5} (10\underline{b} + 10\underline{a}) = 4\underline{a} + 4\underline{b}$

QED