Name: _____ 5-a-day Further Maths

1st June

Corbettmaths

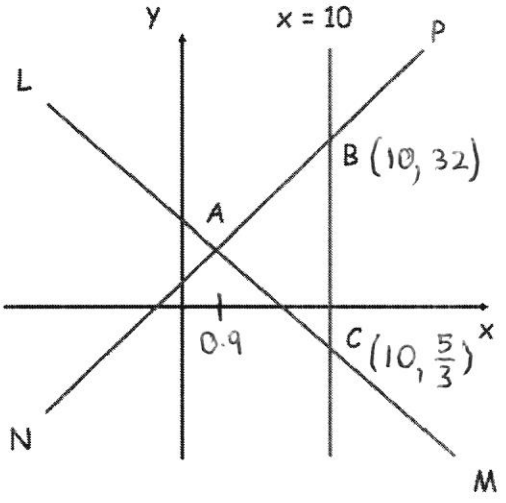
Make y the subject of $\dfrac{x-4y}{y+2x}=p$

$x-4y=py+2px$

$x-2px=py+4y$

$x(1-2p)=y(p+4)$

$y=\dfrac{x(1-2p)}{p+4}$



The lines LM and NP are perpendicular
The line NP has equation $y-3x=2$
A is the point with coordinates $(0.9, 4.7)$

Find the area of triangle ABC.

B: $y-30=2 \Rightarrow y=32$

NP: $y=3x+2 \Rightarrow m_{\perp}=-\frac{1}{3}$

LM: $y-4.7=-\frac{1}{3}(x-0.9)$

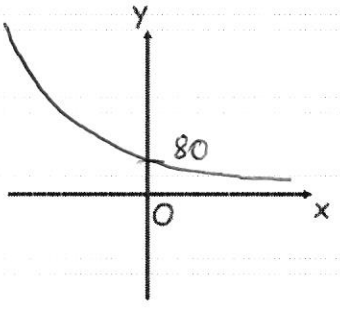
C: $y-4.7=-\frac{1}{3}\times 9.1 \Rightarrow y=\frac{5}{3}$

Area $=\frac{1}{2}\times\left(32-\frac{5}{3}\right)\times 9.1$

$=138\frac{1}{60}$

Sketch the graph of $y=80\times 2^{-x}$

Label the coordinates of any points of intersection with the coordinate axes.



$y=6x^2-5x+2$

Find the value of $\dfrac{dy}{dx}$ when $x=-4$

$\frac{dy}{dx}=12x-5$

$x=-4 \Rightarrow \frac{dy}{dx}=-53$

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