10(a)	Attempt to substitute for x or y to produce quadratic equation in one variable
	Obtain $5x^2-40x+75=0$ or $5y^2-20=0$
	Find two values of one variable
	Obtain coordinates $(3, 2)$ and $(5, -2)$
10(b)	Obtain centre $(0, -2)$ [and radius 5]
	Attempt area of ABC using mid-point of AB or $\frac{1}{2}\times \text{base}\times\text{height}$
	Obtain $\frac{1}{2}\sqrt{20}\times\sqrt{20}$ or $\frac{1}{2}\times 5\times 4$ (or equivalent) and hence 10

7(a)	[Centre is] $(4,\ 6)$
	$\sqrt{3^2+5^2}$ or 3^2+5^2 or $\sqrt{6^2+10^2}$ or 6^2+10^2 oe
	$(x-\textit{their}\,4)^2+(y-\textit{their}\,6)^2=(\textit{their}\ \text{radius})^2$
	$(x-4)^2+(y-6)^2=34$ or $x^2+y^2-8x-12y+18=0$

7(b)	[Gradient of PQ =] $\dfrac{11-1}{7-1}$ or $\dfrac{5}{3}$ oe
	[Gradient of tangent =] $-\dfrac{3}{5}$
	$\dfrac{y-11}{x-7}=-\dfrac{3}{5}$ oe e.g. $y=-\dfrac{3}{5}x+\dfrac{76}{5}$
	Alternative Method for Question 7(b):
	$2(x-4)+2(y-6)\dfrac{dy}{dx}=0$
	Substitute $x = 7$, $y = 11$ $\Rightarrow$ $6 + 10\dfrac{dy}{dx} = 0 \Rightarrow \dfrac{dy}{dx} = -\dfrac{3}{5}$
	$\dfrac{y-11}{x-7}=-\dfrac{3}{5}$ oe e.g. $y=-\dfrac{3}{5}x+\dfrac{76}{5}$

7(c)	y-coordinate of R is 1
	[Equation of tangent at R is] $\frac{y-1}{x-7}=\frac{3}{5}$ oe eg $y=\frac{3}{5}x-\frac{16}{5}$
	$\frac{3}{5}(x-7)+1=-\frac{3}{5}(x-7)+11 \Rightarrow x=\ldots$ or $y=\ldots$
	$x=\frac{46}{3}$ oe and $y=6$
	Alternate Method for Question 7(c):
	y-coordinate of R is 1
	y-coordinate of point of intersection is 6
	Then either
	$6-11=-\frac{3}{5}(x-7)$
	Or
	$(x-4)^2=34+(x-7)^2+25$
	$x=\frac{46}{3}$ $\left[\frac{46}{3},6\right]$ oe

6(a)	$2x^2-2x(11x+3)+2$ [$=0$]
	$-20x^2-6x+2[=0] \Rightarrow [(5x-1)(2x+1)=0]$
	Coordinates $\left(-\frac{1}{2},-\frac{5}{2}\right)$, $\left(\frac{1}{5},\frac{26}{5}\right)$
6(b)	$2x^2-kx(4x+3)+2=0 \Rightarrow (2-4k)x^2-3kx+2$ [$=0$]
	$(2-4k)x^2-3kx+2$ [$=0$]
	$b^2-4ac=9k^2-4\times(2-4k)\times 2$
	$9k^2+32k-16$ [<0] $\Rightarrow (k+4)(9k-4)$ [<0]
	$-4<k<\frac{4}{9}$

8	Centre of circle is $(3,-5)$
	$x=-2 \Rightarrow y^2+10y-11[=0]$ $[\Rightarrow(y-1)(y+11)=0]$ or $(y+5)^2=36$.
	$y=1$ and $y=-11$
	Gradient of line PC is $\frac{-5-1}{3-(-2)}$ $\left[=\frac{-6}{5}\right]$ or gradient of line QC is $\frac{-5+11}{3-(-2)}$ $\left[=\frac{6}{5}\right]$
	Gradient of tangent at P is $\frac{5}{6}$ or gradient of tangent at Q is $-\frac{5}{6}$
	Equation of tangent is $y-1=\frac{5}{6}(x+2)$. Crosses $y=-5$ at $x=-\frac{46}{5}$, so distance = $\frac{36}{5}$ or equations of two tangents are $y-1=\frac{5}{6}(x+2)$ and $y+11=-\frac{5}{6}(x+2)$ and these meet when $x=-\frac{46}{5}$ so distance = $\frac{36}{5}$
	Area = $\frac{1}{2}\times 12\times \mathit{their}\,\frac{36}{5}$
8	$\frac{432}{10}$ or $\frac{216}{5}$ or 43.2

8(a)	$(2,-2)$
	$(12,-2)$
	$(7,-4)$
8(b)	$\tan\left(\frac{1}{2}\theta\right)=\frac{5}{2}$ $\left[\Rightarrow \theta=2\tan^{-1}\frac{5}{2}\right]$ or $\sin\left(\frac{\theta}{2}\right)=\frac{5}{\sqrt{29}}$ or $\cos\left(\frac{\theta}{2}\right)=\frac{2}{\sqrt{29}}$ or $\theta=\pi-2\times\tan^{-1}\frac{2}{5}$ or $\pi-2\times 0.381$ or $10^2=29+29-2\times\sqrt{29}\times\sqrt{29}\cos\theta$ $\left[\Rightarrow\ \cos\theta=\frac{29+29-100}{2\times\sqrt{29}\times\sqrt{29}}=\frac{-21}{29}\right]$
	$[\theta=]$ 2.38
	Alternative Method for Question 8(b)
	$\tan\theta=\dfrac{\frac{-2}{5}-\frac{2}{5}}{1+\frac{-2}{5}\times\frac{2}{5}}$ $\left[=-\frac{20}{21}\right]$
	$[\theta=]$ 2.38

8(c)	[Length AC = Length $BC = \sqrt{5^2+2^2}$] $=\sqrt{29}$ [=5.385…]
	[Area of large sector =] $\frac{1}{2}\times\sqrt{29}\times\sqrt{29}\times(2\pi - \textit{their } \theta)$ [= 56.587..] or [Area of small sector =] $\frac{1}{2}\times\sqrt{29}\times\sqrt{29}\times \textit{their } \theta$ [= 34.518…]
	Area of triangle = $\frac{1}{2}\times\sqrt{29}\times\sqrt{29}\times\sin\theta$ or $\frac{1}{2}\times 10\times 2$ [= 10]
	[Segment area =] 66.6