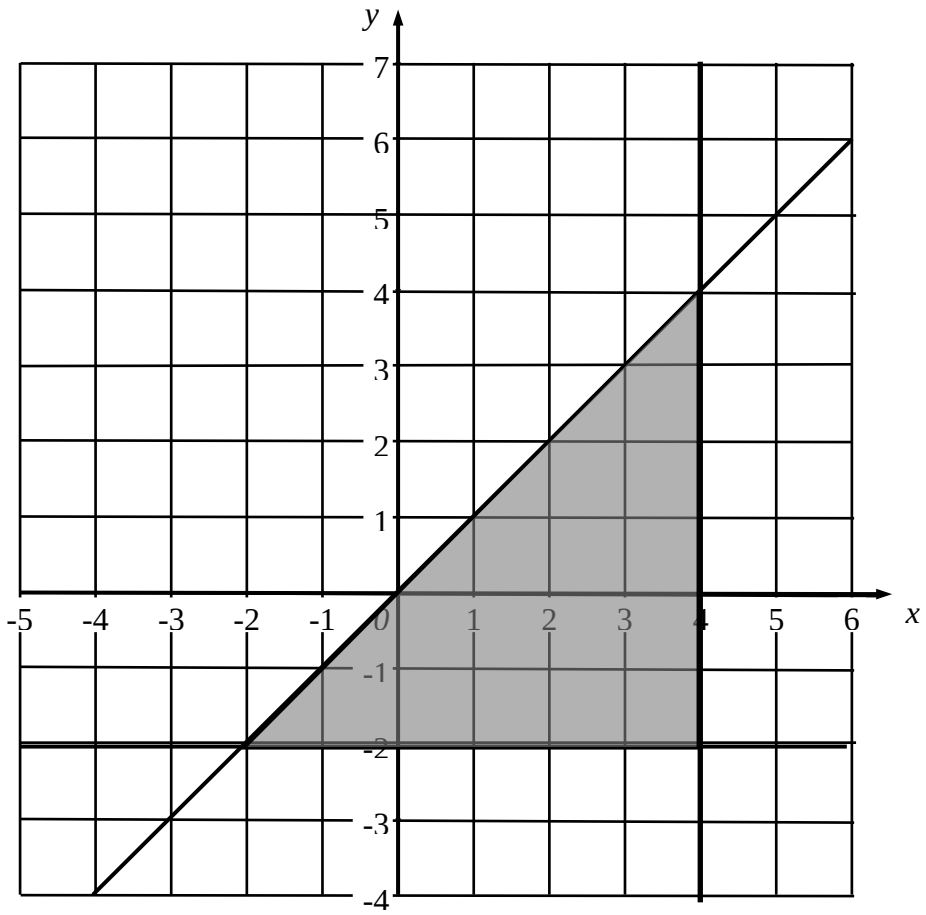
26	$\left(2+\sqrt{5}\right)\times AC=(2\sqrt{5})\times\left(2\sqrt{5}+4+\sqrt{5}\right)$ or $\left(2+\sqrt{5}\right)\times AC=(2\sqrt{5})\times\left(3\sqrt{5}+4\right)$ or $\left(2+\sqrt{5}\right)\times(AB+2+\sqrt{5})=(2\sqrt{5})\times\left(2\sqrt{5}+4+\sqrt{5}\right)$		5	M1	for using the intersecting chord theorem correctly eg may label $AB=x$ or $AC=x$ oe
	$(AC=)\dfrac{\left(2\sqrt{5}\right)\times\left(2\sqrt{5}+4+\sqrt{5}\right)}{\left(2+\sqrt{5}\right)}$ or $(AC=)\dfrac{\left(30+8\sqrt{5}\right)}{\left(2+\sqrt{5}\right)}$			M1	dep 1st M1 for rearranging for AC may use $AB+2+\sqrt{5}$ on LHS
	$(AC=)\dfrac{\left(30+8\sqrt{5}\right)}{\left(2+\sqrt{5}\right)}\times\dfrac{\left(2-\sqrt{5}\right)}{\left(2-\sqrt{5}\right)}$ or $(AB=)\dfrac{\left(21+4\sqrt{5}\right)}{\left(2+\sqrt{5}\right)}\times\dfrac{\left(2-\sqrt{5}\right)}{\left(2-\sqrt{5}\right)}$			M1	indep for multiplying by the conjugate of the denominator of *their* fraction, so long as fraction in the form $\dfrac{a+b\sqrt{5}}{c+d\sqrt{5}}$
	$(AC=)\dfrac{60-30\sqrt{5}+16\sqrt{5}-40}{4-5}$ $\left(=14\sqrt{5}-20\right)$ or $(AB=)\dfrac{42-21\sqrt{5}+8\sqrt{5}-20}{4-5}$			M1	dep 3rd M1 for multiplying out the numerator
	$(AB=)\dfrac{20-14\sqrt{5}}{-1}-\left(2+\sqrt{5}\right)$	$13\sqrt{5}-22$		A1	allow $p = 13$ and $q = -22$
					Total 5 marks

Appendix 1



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