RATIONALIZATION

Pearson Edexcel - Thursday 7 June 2018 - Paper 2 (Calculator) Higher Tier

1.

20	(a)	explanation	C1	for a correct explanation, eg $\sqrt{3} \times -\sqrt{3} = -3$, not 3	
	(b)	explanation	C1	for correct explanation, eg $\sqrt{12} = 2\sqrt{3}$, not $3\sqrt{2}$	

Pearson Edexcel - Thursday 2 November 2017 - Paper 1 (Non-Calculator) Higher Tier

2.

21	$\frac{6-\sqrt{8}}{\sqrt{2}-1} \times \frac{\sqrt{2}+1}{\sqrt{2}+1}$ $= \frac{6\sqrt{2}+6-\sqrt{8}\sqrt{2}-\sqrt{8}}{2-1}$ $= 6\sqrt{2} + 6 - 4 - 2\sqrt{2}$	$2 + 4\sqrt{2}$	M1 M1 A1	for correct first step eg multiplies numerator and denominator by $\sqrt{2}+1$ condone missing brackets (dep) for expansion of numerator with 4 terms correct with or without signs **or** 3 out of exactly 4 terms correct for $2 + 4\sqrt{2}$ oe **or** for stating $a = 2$ and $b = 4$

Pearson Edexcel - Specimen Papers Set 1 - Paper 1 (Non-Calculator) Higher Tier

3.

19		$\sqrt{31}$	M1 M1 A1	expands brackets eg $36 + 6\sqrt{5} - 6\sqrt{5} - \sqrt{25}$ (=31) rationalises the denominator eg using $\sqrt{31}$ with numerator & denominator for $\sqrt{31}$

Pearson Edexcel - Wednesday 4 November 2015 - Paper 1 (Non-Calculator) Higher Tier

4.

18			$2\sqrt{5}$	2	M1 for multiplication of denominator and numerator by $\sqrt{5}$ A1 cao

Pearson Edexcel - Monday 9 June 2014 - Paper 1 (Non-Calculator) Higher Tier

5.

25	(a)		$4\sqrt{3}$	2	M1 for $\frac{12}{\sqrt{3}} \times \frac{\sqrt{3}}{\sqrt{3}}$ A1 for $\frac{12\sqrt{3}}{3}$ oe with a rational denominator
	(b)		18	2	M1 for $\sqrt{2}\times\sqrt{2} + \sqrt{2}\times\sqrt{8} + \sqrt{8}\times\sqrt{2} + \sqrt{8}\times\sqrt{8}$ oe A1 cao OR M1 for $(\sqrt{2} + 2\sqrt{2})^2$ A1cao

Pearson Edexcel - Tuesday 6 November 2012 - Paper 1 (Non-Calculator) Higher Tier

6.

26	(a)		$\frac{5\sqrt{2}}{2}$	2	M1 for $\frac{5}{\sqrt{2}}\times\frac{\sqrt{2}}{\sqrt{2}}$ oe A1 for $\frac{5\sqrt{2}}{2}$ oe
	(b)		$8\sqrt{3}$	2	M1 for $2\times2+2\sqrt{3}+2\sqrt{3}+\sqrt{3}\times\sqrt{3}$ or $\left(4+4\sqrt{3}+3\right)-\left(4-4\sqrt{3}+3\right)$ or $2\times2-2\sqrt{3}-2\sqrt{3}+\sqrt{3}\times\sqrt{3}$ at least three terms in either correct; could be in a grid. A1 cao **OR** Difference of two squares M1 for $\left(\left(2+\sqrt{3}\right)-\left(2-\sqrt{3}\right)\right)\left(\left(2+\sqrt{3}\right)+\left(2-\sqrt{3}\right)\right)$ A1 cao

7.