MULTIPLICATION AND DIVISION

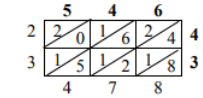
Pearson Edexcel - Wednesday 8 November 2017 - Paper 3 (Calculator) Higher Tier

1.

7		0.000 745 2	M1 A1	digits 7452 seen cao

Pearson Edexcel - Thursday 25 May 2017 - Paper 1 (Non-Calculator) Higher Tier

2.

3	21840 1638 23478  20000 + 1600 + 240 + 1500 + 120 + 18 = 23478	234.78	M1 A1 A1	for complete method with relative place value correct including addition of all the appropriate elements of the calculation e.g. two lines of 1st method, internal numbers of grids, or complete structure shown of partitioning methods for digits 23478 (ft dep M1) for correct placement of the decimal point into their final answer

	500	40	6
40	20000	1600	240
3	1500	120	18

Pearson Edexcel - Thursday 25 May 2017 - Paper 1 (Non-Calculator) Higher Tier

3.

8	(a)		0.00000797	B1	cao
	(b)		6.3×10^{7}	M1 A1	for partial calculation involving powers of 10 e.g. $0.63 \times 10^{5-3}$ or 6.3×10^{n} where $n \neq 7$ or for $n \times 10^{8}$ or for 63000000 cao

Pearson Edexcel - Specimen Papers Set 2 - Paper 1 (Non-Calculator) Higher Tier

4.

6	a		$7\frac{1}{2}$	M1 M1 A1	$\frac{9}{4}\times\frac{10}{3}$ oe $\frac{90}{12}$ oe $7\frac{1}{2}$
	b		$5\frac{1}{4}+6\frac{2}{3}$ or $5\frac{2}{3}+6\frac{1}{4}$	B1	$5\frac{1}{4}+6\frac{2}{3}$ or $5\frac{2}{3}+6\frac{1}{4}$

Pearson Edexcel - Sample Paper 1 - (Non-Calculator) Higher Tier

5.

1		32.968	M1 A1 A1	for correct method (condone one error) for digits 32968 ft (dep M1) for correct placement of decimal pt

Pearson Edexcel - Thursday 26 May 2016 - Paper 1 (Non-Calculator) Higher Tier

6.

16		7×10^8	2	M1 for 7×10^n, $n \neq 8$ or $a \times 10^8$, $a \neq 7$ or 700 000 000 or 0.7×10^9 A1 cao

Pearson Edexcel - Thursday 26 May 2016 - Paper 1 (Non-Calculator) Higher Tier

7.

18	(a)		$2\frac{4}{5}$	3	M1 for writing as improper fractions eg $\frac{6}{5}$ or $\frac{7}{3}$ M1 (dep) for multiplying improper fractions eg $\frac{6\times7}{5\times3}$ or $\frac{14}{5}$ oe A1 cao
	(b)		$\frac{4}{5}$	3	M1 for finding two correct fractions with a common denominator eg $\frac{7}{15}-\frac{10}{15}$ or $\frac{21-30}{45}$ M1 (dep) for complete and correct method eg $1-\frac{3}{15}$ or $\frac{37}{15}-\frac{25}{15}$ or $\frac{111-75}{45}$ oe A1 for $\frac{4}{5}$ oe

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

8.

2	(i)		19.44	2	B1 cao
	(ii)		19 440		B1 cao

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

9.

1	(i)		3484	1	B1 cao
	(ii)		34.84	1	B1 cao
	(iii)		670	1	B1 cao

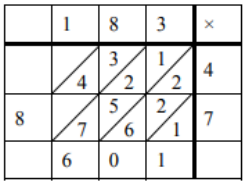
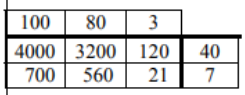
Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

10.

1	(a)		331.705	1	B1 cao
	(b)		179300	1	B1 cao

Pearson Edexcel - Thursday 28 February 2013 - Paper 1 (Non-Calculator) Higher Tier

11.

1		183 × 47 1281 7320 8601 **or**  **or**  4000 + 3200 +120 + 700 + 560 + 21 = 8601 **or** 183 × 100 = 18 300 183 × 50 = 18 300 ÷ 2 =9150 183 × 3 = 549 9150 – 549 = 8601	86.01	3	M1 for a complete method to multiply 183 by 47 and attempt at addition (condone one multiplication error) A1 for digits 8601 given as the answer B1 (dep on M1) for correctly writing their answer to 2 decimal places

Pearson Edexcel - Monday 11 June 2012 - Paper 1 (Non-Calculator) Higher Tier

12.

17	(a)		1	1	B1 cao
	(b)		0.000067	1	B1 cao
	(c)		2.7×10^{14}	2	M1 for $27 \times 10^{7+6}$ **or** 27×10^{13} oe **or** an answer of 2.7×10^{n} where n is an integer **or** an answer of $a \times 10^{14}$ where $1 \leq a < 10$ A1 cao

Pearson Edexcel - Friday 2 March 2012 - Paper 3 (Non-Calculator) Higher Tier

13.

2		$\frac{60.2 \times 0.799}{223} \approx \frac{60 \times 0.8}{200} = \frac{48}{200} = 0.24$	0.24	3	B1 for any two of 60, 0.8, 200 seen **or** 48 seen M1 for at least one of 60, 0.8, 200 **and** a correct method to begin to evaluate eg. the numerator may be correctly evaluated **or** a correctly simplified fraction (NB. fraction may not be fully simplified) A1 for answer in the range 0.15 to 0.3 from correct working

Pearson Edexcel - Friday 2 March 2012 - Paper 3 (Non-Calculator) Higher Tier

14.

6		$1500 \div 175 = 8\frac{4}{7}$	8	4	B1 1500 or 0.175 M1 '1500' ÷ 175 oe M1 evidence of correct method to evaluate '1500'÷175 eg. can be implied by a division sum or a cancelled down fraction A1 8 cao **OR** B1 1500 or 0.175 M2 at least 8 repeated additions of 175 **or** at least 8 repeated subtractions of 175 from 1500 **or** 8 × 175 (=1400) **or** 9 × 175 (=1575) (M1 at least 4 repeated additions of 175 **or** at least 4 repeated subtractions of 175 from 1500 **or** n × 175 where n = 4 or 5 or 6 or 7 or 10) A1 8 cao NB: Work could be in m*l* throughout

Pearson Edexcel - Friday 2 March 2012 - Paper 3 (Non-Calculator) Higher Tier

15.

22		$(2+\sqrt{2})(3+\sqrt{8}) = 6+2\sqrt{8}+3\sqrt{2}+\sqrt{2}\times\sqrt{8}$ $= 10+3\sqrt{2}+2\sqrt{8}$ $10+3\sqrt{2}+2\sqrt{8} = 10+3\sqrt{2}+2\times2\times\sqrt{2} = 10+7\sqrt{2}$ **OR** $(2+\sqrt{2})(3+\sqrt{8}) = (2+\sqrt{2})(3+2\sqrt{2})$ $= 6+4\sqrt{2}+3\sqrt{2}+\sqrt{2}\times2\sqrt{2}$ $6+7\sqrt{2}+\sqrt{2}\times2\sqrt{2} = 6+7\sqrt{2}+2\times2$	$10+7\sqrt{2}$	4	M1 3 or 4 out 4 terms correct 6, $2\sqrt{8}$, $3\sqrt{2}$, $\sqrt{2}\sqrt{8}$ - terms may be simplified and could be in a list M1 for 10 from $6+\sqrt{2}\sqrt{8}$ B1 $\sqrt{8}=\sqrt{4}\times\sqrt{2}$ oe **or** $\sqrt{8}=\sqrt{4\times2}$ A1 $10+7\sqrt{2}$ cao **OR** B1 $\sqrt{8}=\sqrt{4}\times\sqrt{2}$ **or** $\sqrt{8}=\sqrt{4\times2}$ M1 3 or 4 out of 4 terms ft from the expansion of $(2+\sqrt{2})(3+2\sqrt{2})$ 6, $2\times2\sqrt{2}$, $3\sqrt{2}$, $2\times\sqrt{2}\sqrt{2}$ - terms may be simplified and could be in a list M1 for 10 from $6+2\times\sqrt{2}\sqrt{2}$ A1 $10+7\sqrt{2}$ cao

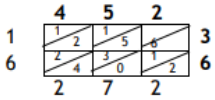
Pearson Edexcel - Tuesday 9 November 2010 - Paper 3 (Non-Calculator) Higher Tier

16.

2	(a)		p^4	1	B1 cao
	(b)		$6cd$	1	B1 for $6cd$

Pearson Edexcel - Monday 7 June 2010 - Paper 3 (Non-Calculator) Higher Tier

17.

10		452 36 2712 13560 16272  | | 400 | 50 | 2 | | 30 | 12000 | 1500 | 60 | | 6 | 2400 | 300 | 12 | $12000+1500+60+2400+300+12=16272$	162.72	3	M1 for complete method with relative place value correct. Condone 1 multiplication error, addition not necessary. OR M1 for a complete grid. Condone 1 multiplication error, addition not necessary. OR M1 for sight of a complete partitioning method, condone 1 multiplication error. Final addition not necessary. A2 for 162.72 (A1 (dep on M1) for correct placement of decimal point after final addition (of appropriate values) or for digits 16272 seen) (SC; B1 for attempting to add 36 lots of 4.52)

18.