

**KEY TO HUNTER'S  
MANUAL OF SHORT  
METHODS IN ARITHMETIC**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649314188

Key to hunter's manual of short methods in arithmetic by J. Hunter

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.

Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**J. HUNTER**

**KEY TO HUNTER'S  
MANUAL OF SHORT  
METHODS IN ARITHMETIC**



K E Y  
TO  
HUNTER'S MANUAL  
OF  
SHORT METHODS IN ARITHMETIC

CONTAINING SOLUTIONS OF ALL THE UNWORKED  
EXAMPLES IN THAT TREATISE

BY THE  
REV. J. HUNTER, M.A.

LONDON  
LONGMANS, GREEN, AND CO.  
1884

All rights reserved

222

6

5 \*

LONDON: PRINTED BY  
SPOTTISWOODE AND CO., NEW-STREET SQUARE  
AND PARLIAMENT STREET



# KEY

TO

## HUNTER'S MANUAL

OF

### SHORT METHODS IN ARITHMETIC.

#### Exercises I.

1.	4371	17391	3	2.	2668	8188	3
		13113				3004	
	2)4278	4371	9		184	2668	14
	2139	4278				184	
	Ans. 93	2139	23			828	
		186				736	
		279			Ans. 92	184	2
3.	73033	118007	1	4.	29735	39330	1
	2)44974	73033	3		9595	29735	
	32487	67461				28785	
	4)5572	22487	16		2)950	9595	20
	1393	1393			475	9500	
		8557			Ans. 95	475	5
		8358					
	Ans. 199	1393	7				

# 4 KEY TO SHORT METHODS IN ARITHMETIC.

5.	58345	57670	1	6.	78329	187897	1
	9)3285	54365	149		12)59568	78329	
	<i>Ans.</i> 365	365			4)4964	7446	
		1788				1241	3869
		1460					3723
		3285				2)146	1241
					<i>Ans.</i> 73		73
							511

7.	2)56498	67691	2		2)30094		
	28249	56498			538	15047	28
	3)11198	28249	7			1066	
	3781	26117				4387	
	4)2132	3781	7			4264	
	<i>g.c.m.</i> 538	3781			3)123	538	13
					<i>Ans.</i> 41	538	

8.	5)266815				781	42527	58
	22661	53363	2			3655	
		45322				5977	
	8041	22661	2			5848	
		16082			3)129	731	17
	9)6579	8041	11		<i>Ans.</i> 43	48	
	<i>g.c.m.</i> 731	8041				301	

9.	348467	425383	1		469	226269	486
	4)76916	348467	18			1876	
	19229	19229				4066	
		156177				3752	
		153832				3149	
	5)2345	19229	41			2814	
	<i>g.c.m.</i> 469	1876			5)335	469	7
		469			<i>Ans.</i> 67	469	

## Exercises 2.

- 693 =  $3 \times 3 \times 7 \times 11$ ; cancelling 11 gives  $\frac{21}{1}$ .—*Ans.*
- 276 =  $12 \times 23$ ; cancelling 23 gives  $\frac{12}{1}$ .—*Ans.*
- 925 =  $5 \times 5 \times 37$ ; cancelling 37 gives  $\frac{10}{1}$ .—*Ans.*
- 3311 =  $11 \times 7 \times 43$ ; cancelling 43 gives  $\frac{11}{1}$ .—*Ans.*
- 2765 =  $5 \times 7 \times 79$ ; cancelling 79 gives  $\frac{35}{1}$ .—*Ans.*



KEY TO SHORT METHODS IN ARITHMETIC. 5

6.  $2538 = 6 \times 9 \times 47$ ; cancelling 47 gives  $\frac{54}{13}$ .—*Ans.*  
 7.  $4746 = 6 \times 7 \times 113$ ; cancelling 113 gives  $\frac{34}{13}$ .—*Ans.*  
 8. Cancelling 3 gives  $\frac{988}{4891}$ ; then,  $868 = 4 \times 7 \times 31$ ; cancelling 31 gives  $\frac{38}{131}$ .—*Ans.*

$$\begin{array}{r|l} 9. \quad 323 & 1349 \quad 4 \\ & 1292 \\ 3 \overline{) 57} & 323 \quad 17 \\ \text{G.C.M. 19} & 19 \\ & 133 \\ \hline & \text{Ans. } \frac{17}{13} \end{array}$$

$$\begin{array}{r|l} 10. \quad 4171 & 6499 \quad 1 \\ 8 \overline{) 2328} & 4171 \quad 14 \\ & 291 \\ & 1261 \\ & 1164 \\ \hline & \text{G.C.M. 97} \quad 3 \\ & \text{Ans. } \frac{34}{13} \end{array}$$

$$\begin{array}{r|l} 11. \quad 3287 & 6631 \quad 1 \\ 11 \overline{) 3344} & 3287 \quad 173 \\ 8 \overline{) 304} & 19 \\ 2 \overline{) 38} & 138 \\ \text{G.C.M. 19} & 133 \\ & 57 \\ \hline & \text{Ans. } \frac{173}{343} \end{array}$$

$$\begin{array}{r|l} 12. \quad 2461 & 13589 \quad 5 \\ & 12905 \\ 12 \overline{) 1284} & 2461 \quad 23 \\ \text{G.C.M. 107} & 214 \\ & 321 \\ \hline & \text{Ans. } \frac{23}{137} \end{array}$$

Exercises 3.

$$\begin{array}{r} 1. \quad 7s. \quad 3\frac{1}{2}d. \\ \quad \quad 12 \\ 2 \overline{) 87 \quad 9} \\ \quad 43 \quad 10\frac{1}{2} \\ \quad \quad 131 \quad 7\frac{1}{2} \\ \hline \pounds 6 \quad 11s. \quad 7\frac{1}{2}d. \quad \text{Ans.} \end{array}$$

$$\begin{array}{r} 2. \quad 78s. \quad 11\frac{1}{2}d. \\ \quad \quad 12 \\ 2 \overline{) 947 \quad 3} \\ \quad 473 \quad 7\frac{1}{2} \\ \quad \quad 1499 \quad 9\frac{1}{2} \\ \hline \pounds 74 \quad 18s. \quad 9\frac{1}{2}d. \quad \text{Ans.} \end{array}$$

$$\begin{array}{r} 3. \quad 119s. \quad 10\frac{1}{2}d. \\ \quad \quad 12 \\ 4 \overline{) 1438 \quad 6} \\ \quad 359 \quad 7\frac{1}{2} \\ \quad \quad 1798 \quad 1\frac{1}{2} \\ \hline \pounds 89 \quad 18s. \quad 1\frac{1}{2}d. \quad \text{Ans.} \end{array}$$

$$\begin{array}{r} 4. \quad 17s. \quad 8\frac{1}{2}d. \\ \quad \quad 12 \\ 3 \overline{) 212 \quad 8} \\ \quad 70 \quad 9 \\ \quad \quad 300 \quad 8\frac{1}{2} \\ \hline \pounds 15 \quad 0s. \quad 8\frac{1}{2}d. \quad \text{Ans.} \end{array}$$

$$\begin{array}{l} 5. \quad 6s. \quad 5d. \times 20 \\ = \pounds 6 + 1s. \quad 8d. \times 5 \\ = \pounds 6 \quad 8s. \quad 4d. \quad \text{Ans.} \end{array}$$

$$\begin{array}{r} 6. \quad 13s. \quad 6\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 162\frac{1}{2}s. \\ = \pounds 8 \quad 2s. \quad 6d. \quad \text{Ans.} \end{array}$$

6 KEY TO SHORT METHODS IN ARITHMETIC.

$$\begin{array}{r} 7. \quad 16s. \ 5d. \\ \quad \quad 12 \\ \hline 1973 \ 0 \\ 2137 \ 5 \\ \hline \end{array}$$

£106 17s. 5d. *Ans.*

$$\begin{array}{r} 8. \quad 16s. \ 10\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 2)202 \ 6 \\ 2)101 \ 3 \\ \quad 50 \ 7\frac{1}{2} \\ \quad \quad 354 \ 4\frac{1}{2} \\ \hline \end{array}$$

£17 14s. 4½d. *Ans.*

$$\begin{array}{r} 9. \quad 30s. \ 8\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 368 \ 3 \\ \hline \end{array}$$

£18 8s. 3d. *Ans.*

$$\begin{array}{r} 10. \quad 17s. \ 9\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 218 \ 6 \\ 281 \ 3\frac{1}{2} \\ \hline \end{array}$$

£11 11s. 3½d. *Ans.*

$$\begin{array}{r} 11. \quad 15s. \ 7\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 187 \ 9 \\ \hline \end{array}$$

£9 7s. 9d. *Ans.*

$$\begin{array}{r} 12. \quad 51s. \ 9\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 2)621 \ 9 \\ 2)310 \ 10\frac{1}{2} \\ \quad 155 \ 5\frac{1}{2} \\ \quad \quad 1088 \ 0\frac{1}{2} \\ \hline \end{array}$$

£54 8s. 0½d. *Ans.*

$$\begin{array}{r} 13. \quad 30s. \ 6d. \\ \quad \quad 20 \\ \hline \end{array}$$

£30½  
or £30 10s. *Ans.*

$$\begin{array}{r} 14. \quad 189s. \ 10d. \\ \quad \quad 12 \\ \hline 2278 \ 0 \\ \hline \end{array}$$

£113 18s. *Ans.*

$$\begin{array}{r} 15. \quad 133s. \ 11\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 1607 \ 6 \\ 1741 \ 5\frac{1}{2} \\ \hline \end{array}$$

£87 1s. 5½d. *Ar*

$$16 \quad 14\frac{1}{2}s. \times 20 = £14\frac{1}{2} = £14 \ 15s. \text{ *Ans.*}$$

$$\begin{array}{r} 17. \quad 6s. \ 11d. \\ \quad \quad 12 \\ \hline 4)83 \ 0 \\ \quad 20 \ 9 \\ \quad \quad 103 \ 9 \\ \hline \end{array}$$

£5 3s. 9d. *Ans.*

$$\begin{array}{r} 18. \quad 14s. \ 5\frac{1}{2}d. \\ \quad \quad 12 \\ \hline 2)173 \ 3 \\ \quad 86 \ 7\frac{1}{2} \\ \quad \quad 274 \ 3\frac{1}{2} \\ \hline \end{array}$$

£13 14s. 3½d. *Ans.*

$$\begin{array}{r}
 19. \quad 67s. \ 3\frac{1}{2}d. \\
 \quad \quad 12 \\
 \hline
 2 \overline{)807 \ 9} \\
 \quad 403 \ 10\frac{1}{2} \\
 \hline
 \quad 1211 \ 7\frac{1}{2}
 \end{array}$$

£60 11s. 7½d. *Ans.*

$$\begin{array}{r}
 20. \quad 12s. \ 11\frac{1}{2}d. \times 10 \\
 \quad \quad 12 \\
 \hline
 \quad 105 \ 6 \\
 \quad 129 \ 7 \\
 \hline
 \quad 285 \ 1
 \end{array}$$

£14 5s. 1d. *Ans.*

$$\begin{array}{r}
 21. \quad 36s. \ 1\frac{1}{2}d. \times 11 \\
 \quad \quad 12 \\
 \hline
 \quad 433 \ 3 \\
 \quad 397 \ 1\frac{1}{2} \\
 \hline
 \quad 830 \ 4\frac{1}{2}
 \end{array}$$

£41 10s. 4½d. *Ans.*

$$\begin{array}{r}
 22. \quad 97s. \ 6d. \\
 \quad \quad 12 \\
 \hline
 2 \overline{)1170 \ 0} \\
 2 \overline{)585 \ 0} \\
 \quad 292 \ 6 \\
 \hline
 \quad 2047 \ 6
 \end{array}$$

£102 7s. 6d. *Ans.*

## Exercises 4.

1. 260 at 15s. 2d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 182 \\
 20 = \frac{1}{5} \quad \quad \quad \begin{array}{l} 15 \ 3 \ 4 \end{array} \\
 \hline
 \text{Ans. } \pounds 197 \ 3 \ 4
 \end{array}$$

2. 264 at 9s. 1½d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 109 \ 10 \ 0 \\
 24 = \frac{1}{10} \quad \quad \quad \begin{array}{l} 10 \ 19 \ 0 \end{array} \\
 \hline
 \text{Ans. } \pounds 120 \ 9 \ 0
 \end{array}$$

3. 320 at 4s. 11½d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 59 \ 5 \ 0 \\
 80 = \frac{1}{3} \quad \quad \quad \begin{array}{l} 19 \ 16 \ 0 \end{array} \\
 \hline
 \text{Ans. } \pounds 79 \ 0 \ 0
 \end{array}$$

4. 247 at 13s. 7d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 163 \ 0 \ 0 \\
 7 \quad \quad \quad \begin{array}{l} 4 \ 15 \ 1 \end{array} \\
 \hline
 \text{Ans. } \pounds 167 \ 15 \ 1
 \end{array}$$

5. 344 at 16s. 3½d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 195 \ 5 \ 0 \\
 80 = \frac{1}{3} \quad \quad \quad \begin{array}{l} 65 \ 1 \ 8 \end{array} \\
 24 = \frac{1}{5} \quad \quad \quad \begin{array}{l} 19 \ 10 \ 6 \end{array} \\
 \hline
 \text{Ans. } \pounds 279 \ 17 \ 2
 \end{array}$$

6. 340 at 28s. 5d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 341 \ 0 \ 0 \\
 80 = \frac{1}{3} \quad \quad \quad \begin{array}{l} 113 \ 13 \ 4 \end{array} \\
 20 = \frac{1}{6} \quad \quad \quad \begin{array}{l} 28 \ 8 \ 4 \end{array} \\
 \hline
 \text{Ans. } \pounds 483 \ 1 \ 8
 \end{array}$$

7. 136 at 29s. 8d.

$$\begin{array}{r}
 240 \quad \quad \quad \pounds 355 \\
 120 = \frac{1}{2} \quad \quad \quad \begin{array}{l} 178 \ 0 \ 0 \end{array} \\
 12 = \frac{1}{10} \quad \quad \quad \begin{array}{l} 17 \ 16 \ 0 \end{array} \\
 4 = \frac{1}{5} \quad \quad \quad \begin{array}{l} 5 \ 18 \ 8 \end{array} \\
 \hline
 \text{Ans. } \pounds 201 \ 14 \ 8
 \end{array}$$

Otherwise, by Practice.

$$\begin{array}{r}
 s. \ d. \quad \quad \quad \pounds 136 \ 0 \ 0 \\
 5 \ 0 = \frac{1}{2} \quad \quad \quad \begin{array}{l} 34 \ 0 \ 0 \end{array} \\
 4 \ 0 = \frac{1}{5} \quad \quad \quad \begin{array}{l} 27 \ 4 \ 0 \end{array} \\
 0 \ 8 = \frac{1}{5} \quad \quad \quad \begin{array}{l} 4 \ 10 \ 8 \end{array} \\
 \hline
 \text{Ans. } \pounds 201 \ 14 \ 8
 \end{array}$$