TARGET To use a formal written method for long multiplication.

Examples

$$\begin{array}{r} {\scriptstyle 5\ 4\ 5} \\ 1\ 7\ 5\ 8 \\ \times\quad 2\ 7 \\ \hline 1\ 2\ 3\ 0\ 6 \quad (1758 \times 7) \\ 3_{1}5_{1}1_{1}6\ 0 \quad (1758 \times 20) \\ \hline 4\ 7\ 4\ 6\ 6 \end{array}$$

$$\begin{array}{r} {\scriptstyle 2\ 5\ 1} \\ 4\ 3\ 9\ 2 \\ \times\quad 3\ 6 \\ \hline 2\ 6\ 3\ 5\ 2 \\ 1\ 3_{1}1_{2}7\ 6\ 0 \\ \hline 1\ 5\ 8\ 1\ 1\ 2 \\ {\scriptstyle \ \ 1\ \ 1} \end{array}$$

A

Copy and complete.

1. $\begin{array}{r} 68 \\ \times\ 13 \\ \hline \quad\quad (68 \times 3) \\ \quad\quad (68 \times 10) \\ \hline \end{array}$

2. $\begin{array}{r} 492 \\ \times\ 18 \\ \hline \quad\quad (492 \times 8) \\ \quad\quad (492 \times 10) \\ \hline \end{array}$

3. $\begin{array}{r} 36 \\ \times\ 24 \\ \hline \quad\quad (36 \times 4) \\ \quad\quad (36 \times 20) \\ \hline \end{array}$

4. $\begin{array}{r} 267 \\ \times\ 35 \\ \hline \quad\quad (267 \times 5) \\ \quad\quad (267 \times 30) \\ \hline \end{array}$

Work out

5. 63×42
6. 57×26
7. 49×19
8. 85×23
9. 174×34
10. 219×28
11. 438×17
12. 365×45

B

Copy and complete.

1. $\begin{array}{r} 1247 \\ \times\ 26 \\ \hline \quad\quad (1247 \times 6) \\ \quad\quad (1247 \times 20) \\ \hline \end{array}$

2. $\begin{array}{r} 2538 \\ \times\ 14 \\ \hline \quad\quad (2538 \times 4) \\ \quad\quad (2538 \times 10) \\ \hline \end{array}$

3. $\begin{array}{r} 1673 \\ \times\ 38 \\ \hline \quad\quad (1673 \times 8) \\ \quad\quad (1673 \times 30) \\ \hline \end{array}$

4. $\begin{array}{r} 3496 \\ \times\ 25 \\ \hline \quad\quad (3496 \times 5) \\ \quad\quad (3496 \times 20) \\ \hline \end{array}$

Work out

5. 5728×16
6. 4359×37
7. 2584×29
8. 3046×35
9. 6257×43
10. 1985×24
11. 4874×39
12. 7169×48

C

Work out

1. $24\,135 \times 28$
2. $57\,248 \times 19$
3. $42\,186 \times 34$
4. $16\,259 \times 45$
5. $35\,367 \times 26$
6. $49\,526 \times 37$
7. $21\,687 \times 85$
8. $52\,958 \times 64$
9. 249×183
10. 376×256
11. 458×149
12. 864×572
13. 327×265
14. 483×174
15. 739×328
16. 562×437
17. One can weighs 387 g. There are 36 cans in a box. What is the total weight of 25 boxes in kilograms?

LONG MULTIPLICATION 2

TARGET To practise a formal written method for long multiplication.

Examples

$$\begin{array}{r} {\scriptstyle 3\ 1\ 2} \\ 1\,8\,2\,7 \\ \times\quad 2\,4 \\ \hline 7\,3\,0\,8 \quad (1827 \times 4) \\ 3_1 6_1 5_1 4\,0 \quad (1827 \times 20) \\ \hline 4\,3\,8\,4\,8 \\ \hline {\scriptstyle 1} \end{array}$$

$$\begin{array}{r} {\scriptstyle 1\ 7\ 3} \\ 5\,1\,9\cdot 4 \\ \times\quad 4\,8 \\ \hline 4\,1\,5\,5\cdot 2 \\ 2\,0\,7\,7\,6\cdot 0 \\ \hline 2\,4\,9\,3\,1\cdot 2 \\ \hline {\scriptstyle 1\ 1} \end{array}$$

A

Copy and complete.

1. $\begin{array}{r} 39 \\ \times\ 25 \\ \hline \\ \\ \hline \\ \hline \end{array}$ (39×5) (39×20)

2. $\begin{array}{r} 6{\cdot}2 \\ \times\ 43 \\ \hline \\ \\ \hline \\ \hline \end{array}$ $(6{\cdot}2 \times 3)$ $(6{\cdot}2 \times 40)$

3. $\begin{array}{r} 183 \\ \times\ 17 \\ \hline \\ \\ \hline \\ \hline \end{array}$ (183×7) (183×10)

4. $\begin{array}{r} 41{\cdot}5 \\ \times\ 38 \\ \hline \\ \\ \hline \\ \hline \end{array}$ $(41{\cdot}5 \times 8)$ $(41{\cdot}5 \times 30)$

Work out

5. 28×24
6. 74×19
7. $5{\cdot}7 \times 36$
8. $9{\cdot}6 \times 72$
9. 135×23
10. 549×18
11. $32{\cdot}6 \times 45$
12. $47{\cdot}3 \times 27$

B

Copy and complete.

1. $\begin{array}{r} 1536 \\ \times\ 34 \\ \hline \\ \\ \hline \\ \hline \end{array}$ (1536×4) (1536×30)

2. $\begin{array}{r} 4872 \\ \times\ 29 \\ \hline \\ \\ \hline \\ \hline \end{array}$ (4872×9) (4872×20)

3. $\begin{array}{r} 239{\cdot}4 \\ \times\ 52 \\ \hline \\ \\ \hline \\ \hline \end{array}$ $(239{\cdot}4 \times 2)$ $(239{\cdot}4 \times 50)$

4. $\begin{array}{r} 60{\cdot}27 \\ \times\ 47 \\ \hline \\ \\ \hline \\ \hline \end{array}$ $(60{\cdot}27 \times 7)$ $(60{\cdot}27 \times 40)$

Work out

5. 1853×63
6. 5419×26
7. $27{\cdot}68 \times 35$
8. $394{\cdot}5 \times 48$
9. $41{\cdot}86 \times 27$
10. $750{\cdot}2 \times 39$
11. $16{\cdot}93 \times 54$
12. $82{\cdot}54 \times 46$

C

Work out

1. $35\,215 \times 28$
2. $14\,793 \times 45$
3. $294{\cdot}08 \times 36$
4. $16{\cdot}359 \times 53$
5. $53{\cdot}826 \times 19$
6. $470{\cdot}54 \times 24$
7. $1293{\cdot}7 \times 37$
8. $30{\cdot}682 \times 65$
9. 476×233
10. 923×458
11. $65{\cdot}4 \times 192$
12. $3{\cdot}89 \times 356$
13. $0{\cdot}547 \times 429$
14. $8{\cdot}15 \times 657$
15. $79{\cdot}2 \times 284$
16. $0{\cdot}438 \times 378$
17. Each can of paint holds 2·35 litres. How much paint is needed to fill 346 cans?

TARGET To practise written methods for short and long multiplication.

Examples

$$\begin{array}{r} 495.7 \\ \times \quad 6 \\ \hline 2974.2 \\ \hline {\scriptstyle 5\ 3\ 4} \end{array} \qquad \begin{array}{r} {\scriptstyle 2\ 1\ 1} \\ 2836 \\ \times \quad 43 \\ \hline 8508 \\ 113_{1}4_{2}40 \\ \hline 121948 \\ \hline {\scriptstyle 1} \end{array} \qquad \begin{array}{r} {\scriptstyle 6\ 2\ 4} \\ 37.25 \\ \times \quad 29 \\ \hline 335.25 \\ 7_{1}45_{1}.00 \\ \hline 1080.25 \\ \hline {\scriptstyle 1} \end{array}$$

A

Work out

1. 258×6
2. 437×5
3. 31.5×9
4. 59.6×7
5. 475×11
6. 763×4
7. 28.4×8
8. 34.9×12

Copy and complete.

9.
$$\begin{array}{r} 165 \\ \times \quad 35 \\ \hline \\ \hline \\ \hline \end{array}$$

10.
$$\begin{array}{r} 36.2 \\ \times \quad 24 \\ \hline \\ \hline \\ \hline \end{array}$$

Work out

11. 37×18
12. 91×23
13. 5.8×47
14. 6.3×16
15. 146×72
16. 507×19
17. 23.9×36
18. 38.4×25

B

Work out

1. 3297×4
2. 2518×7
3. 164.3×12
4. 70.69×3
5. 4825×9
6. 57.03×8
7. 619.2×5
8. 30.84×6
9. 1736×42
10. 3285×37
11. 290.4×64
12. 15.67×26
13. 58.43×83
14. 261.9×39
15. 63.72×45
16. 34.58×58
17. The mean weight of 72 sacks of coal is 39.47 kg. What is the total weight of the sacks?

C

Work out

1. $14\,673 \times 8$
2. $28\,509 \times 11$
3. 817.42×5
4. 39.065×9
5. 4239.7×6
6. 56.184×4
7. 608.29×12
8. 13.956×7
9. $15\,637 \times 53$
10. 274.29×29
11. 40.985×65
12. 315.06×48
13. 394×169
14. 8.72×346
15. 0.759×674
16. 9.68×525
17. Each pipe is 6.95 m long. What is the total length of 258 pipes?

SHORT DIVISION 1

TARGET To practise short division of whole numbers and decimals.

Examples

4138 ÷ 9

$$9\overline{)4\,1^{5}3^{8}8} \quad 4\,5\,9\ \text{r}\ 7$$

289·6 ÷ 8

$$8\overline{)2\,8^{4}9\cdot{}^{1}6} \quad 3\,6\cdot 2$$

370·6 ÷ 4

$$4\overline{)3\,7^{1}0\cdot{}^{2}6^{2}0} \quad 9\,2\cdot 6\,5$$

A

Work out

1. 143 ÷ 2
2. 115 ÷ 8
3. 109 ÷ 3
4. 122 ÷ 9
5. 104 ÷ 6
6. 369 ÷ 5
7. 158 ÷ 4
8. 184 ÷ 8
9. 261 ÷ 9
10. 226 ÷ 3
11. 28·0 ÷ 5
12. 31·8 ÷ 6
13. 26·0 ÷ 4
14. 31·2 ÷ 8
15. 20·4 ÷ 3
16. 15·2 ÷ 2
17. 19·6 ÷ 7
18. 30·4 ÷ 4
19. 46·8 ÷ 9
20. 75·2 ÷ 8

B

Work out

1. 4585 ÷ 3
2. 2843 ÷ 6
3. 6123 ÷ 8
4. 3356 ÷ 4
5. 5295 ÷ 2
6. 1358 ÷ 7
7. 3142 ÷ 5
8. 3211 ÷ 9
9. 254·8 ÷ 4
10. 199·2 ÷ 8
11. 11·72 ÷ 2
12. 507·5 ÷ 7
13. 24·65 ÷ 5
14. 25·02 ÷ 9
15. 110·1 ÷ 3
16. 49·8 ÷ 6
17. There are eight ink cartridges in each pack. How many packs can be filled from 7538 cartridges?
18. Astra has £43·75. She spends one fifth of her money. How much does she have left?
19. Each bag holds seven oranges. How many bags are needed for 4795 oranges?
20. The total length of a long jumper's six jumps is 41·4 m. What is the mean length of his jumps?

C

Work out

1. 17 477 ÷ 7
2. 40 789 ÷ 5
3. 44 416 ÷ 9
4. 19 173 ÷ 11
5. 40 979 ÷ 6
6. 28 624 ÷ 8
7. 16 490 ÷ 3
8. 84 753 ÷ 12
9. 187·7 ÷ 2
10. 40·012 ÷ 7
11. 9381·9 ÷ 11
12. 185·82 ÷ 6
13. 5632·2 ÷ 9
14. 39·715 ÷ 5
15. 227·28 ÷ 12
16. 36·952 ÷ 8
17. One ninth of a shop's 24,111 customers spent more than £50. How many customers spent more than £50?
18. Six classroom tables cost £173·70 altogether. How much does one table cost?
19. Each box holds 12 pencils. How many boxes can be filled from 5720 pencils?
20. Seven packing cases have a total weight of 481·25 kg. What is the mean weight of the cases?

TARGET **To practise short division of whole numbers and decimals.**

Examples

$4451 \div 7$

$$7\overline{)4\,4^{2}5^{4}1} \quad 6\,3\,5\,\tfrac{6}{7}$$

$525{\cdot}6 \div 6$

$$6\overline{)5\;2^{4}5{\cdot}^{3}6} \quad 8\,7{\cdot}6$$

$2791 \div 4$

$$4\overline{)2\;7^{3}9^{3}1{\cdot}^{3}0^{2}0} \quad 6\,9\,7{\cdot}7\,5$$

A

Work out

1. $259 \div 4$
2. $147 \div 6$
3. $301 \div 7$
4. $292 \div 5$
5. $331 \div 9$
6. $355 \div 4$
7. $216 \div 8$
8. $263 \div 3$
9. $267 \div 7$
10. $275 \div 6$
11. $33{\cdot}6 \div 7$
12. $39{\cdot}5 \div 5$
13. $50{\cdot}4 \div 6$
14. $29{\cdot}1 \div 3$
15. $19{\cdot}6 \div 2$
16. $60{\cdot}8 \div 8$
17. $41{\cdot}3 \div 7$
18. $34{\cdot}8 \div 4$
19. $61{\cdot}2 \div 9$
20. $45{\cdot}6 \div 6$

B

Work out

1. $1941 \div 3$
2. $264{\cdot}6 \div 7$
3. $4851 \div 9$
4. $28{\cdot}96 \div 8$
5. $180{\cdot}24 \div 4$
6. $16\,098 \div 6$
7. $2473{\cdot}2 \div 9$
8. $100{\cdot}52 \div 7$

Work out to two decimal places.

9. $93{\cdot}1 \div 2$
10. $251{\cdot}4 \div 4$
11. $178 \div 8$
12. $587{\cdot}3 \div 5$
13. $3875 \div 4$
14. $319{\cdot}5 \div 6$
15. $296{\cdot}4 \div 5$
16. $142 \div 8$
17. Four friends share a bingo prize of £750. How much do they each receive?
18. Five identical crates weigh 134·3 kg altogether. How much does one crate weigh?
19. One in every seven of the 20 832 patients treated at a hospital in one year has a bone fracture. How many patients were treated for fractures?
20. In eight training runs Melissa runs a total distance of 110 km. What is the mean distance of her runs?

C

Work out

1. $34\,713 \div 9$
2. $283{\cdot}56 \div 6$
3. $90{\cdot}468 \div 12$
4. $15\,473{\cdot}6 \div 8$
5. $370{\cdot}23 \div 7$
6. $302{\cdot}038 \div 11$
7. $377{\cdot}658 \div 9$
8. $1125{\cdot}11 \div 7$

Work out to three decimal places.

9. $26{\cdot}07 \div 5$
10. $235{\cdot}4 \div 8$
11. $183{\cdot}73 \div 2$
12. $269{\cdot}38 \div 4$
13. $314{\cdot}85 \div 6$
14. $110{\cdot}12 \div 8$
15. $323{\cdot}7 \div 4$
16. $714{\cdot}86 \div 5$
17. Five identical steel bars weigh 78·84 kg altogether. How much does each bar weigh?
18. 39·88 litres of paint exactly fills five equal sized pots. What is the capacity of each pot?
19. A precision engineering firm is required to cut a 16·5 m length of cable into 12 equal lengths to the nearest millimetre. How long should each length be?
20. A jet flies 88·05 km in six minutes. How far does it fly in one minute?

A

1 884
2 8856
3 864
4 9345
5 2646
6 1482
7 931
8 1955
9 5916
10 6132
11 7446
12 16 425

B

1 32 422
2 35 532
3 63 574
4 87 400
5 91 648
6 161 283
7 74 936
8 106 610
9 269 051
10 47 640
11 190 086
12 344 112

C

1 675 780
2 1 087 712
3 1 434 324
4 731 655
5 919 542
6 1 832 462
7 1 843 395
8 3 389 312
9 45 567
10 96 256
11 68 242
12 494 208
13 86 655
14 84 042
15 242 392
16 245 594
17 348·3 kg

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A

1 975
2 266·6
3 3111
4 1577
5 672
6 1406
7 205·2
8 691·2
9 3105
10 9882
11 1467·0
12 1277·1

B

1 52 224
2 141 288
3 12 448·8
4 2832·69
5 116 739
6 140 894
7 968·8
8 18 936
9 1130·22
10 29 257·8
11 914·22
12 3796·84

C

1 986 020
2 665 685
3 10 586·88
4 867·027
5 1022·694
6 11 292·96
7 47 866·9
8 1994·33
9 110 908
10 422 734
11 12 556·8
12 1384·84
13 234·663
14 5354·55
15 22 492·8
16 165·564
17 813·1 litres

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A

1 1548
2 2185
3 283·5
4 417·2
5 5225
6 3052
7 227·2
8 418·8
9 5775
10 868·8
11 666
12 2093
13 272·6
14 100·8
15 10 512
16 9633
17 860·4
18 960·0

B

1 13 188
2 17 626
3 1971·6
4 212·07
5 43 425
6 456·24
7 3096
8 185·04
9 72 912
10 121 545
11 18 585·6
12 407·42
13 4849·69
14 10 214·1
15 2867·4
16 2005·64
17 2841·84 kg

C

1 117 384
2 313 599
3 4087·1
4 351·585
5 25 438·2
6 224·736
7 7299·48
8 97·692
9 828 761
10 7954·41
11 2664·025
12 15 122·88
13 66 586
14 3017·12
15 511·566
16 5082
17 1793·1 m

Page 16

A

1 71 r 1
2 14 r 3
3 36 r 1
4 13 r 5
5 17 r 2
6 73 r 4
7 39 r 2
8 23
9 29
10 75 r 1
11 5·6
12 5·3
13 6·5
14 3·9
15 6·8
16 7·6
17 2·8
18 7·6
19 5·2
20 9·4

B

1 1528 r 1
2 473 r 5
3 765 r 3
4 839
5 2647 r 1
6 194
7 628 r 2
8 356 r 7
9 63·7
10 24·9
11 5·86
12 72·5
13 4·93
14 2·78
15 36·7
16 8·3
17 942
18 £35
19 685
20 6·9 m

C

1 2496 r 5
2 8157 r 4
3 4935 r 1
4 1743
5 6829 r 5
6 3578
7 5496 r 2
8 7062 r 9
9 93·85
10 5·716
11 852·9
12 30·97
13 625·8
14 7·943
15 18·94
16 4·619
17 2679
18 £28·95
19 476
20 68·75 kg

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A

1 64 r 3
2 24 r 3
3 43
4 58 r 2
5 36 r 7
6 88 r 3
7 27
8 87 r 2
9 38 r 1
10 45 r 5
11 4·8
12 7·9
13 8·4
14 9·7
15 9·8
16 7·6
17 5·9
18 8·7
19 6·8
20 7·6

B

1 647
2 37·8
3 539
4 3·62
5 45·06
6 2683
7 274·8
8 14·36
9 46·55
10 62·85
11 22·25
12 117·46
13 968·75
14 53·25
15 59·28
16 17·75
17 £187·50
18 26·86 kg
19 2976
20 13·75 km

C

1 3857
2 47·26
3 7·539
4 1934·2
5 52·89
6 27·458
7 41·962
8 160·73
9 5·214
10 29·425
11 91·865
12 67·345
13 52·475
14 13·765
15 80·925
16 142·972
17 15·768 kg
18 7·976 litres
19 1·375 m
20 14·675 km

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A

1 13
2 24
3 22 r 4
4 32 r 5
5 23 r 7
6 21 r 10
7 32 r 6
8 23 r 13
9 14
10 42
11 20 r 10
12 17
13 35 r 4
14 13 r 14
15 32
16 14 r 19

B

1 153 r 8
2 122 r 21
3 240
4 232
5 165 r 18
6 140
7 356
8 330 r 7
9 221 r 17
10 176 r 30
11 348
12 211 r 32
13 130 r 6
14 257 r 12
15 164
16 373 r 8
17 546
18 £186
19 272

C

1 1240
2 436 r 5
3 325 r 18
4 2510 r 24
5 4702 r 1
6 3423
7 429 r 3
8 662 r 15
9 2402
10 316 r 30
11 2726
12 3340 r 28
13 1266 r 15
14 2148 r 24
15 4073
16 1629 r 3

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A

1 13
2 27
3 34
4 22
5 12
6 46 r 8
7 21 r 21
8 12 r 24
9 2·7
10 1·4
11 3·2
12 4·5
13 1·7
14 3·9
15 4·5
16 2·4

B

1 132
2 225
3 263 r 11
4 141 r 37
5 132
6 453 r 9
7 147 r 2
8 226
9 25·3
10 12·6
11 3·72
12 16·5
13 2·41
14 135·5
15 52·3
16 1·67
17 0·18 litres
18 £6·75
19 2·56 kg
20 177

C

1 6·35
2 152·7
3 0·362
4 1253 r 9
5 0·418
6 274·3
7 625
8 13·94
9 4162 r 7
10 1·534
11 72·9
12 14·03
13 0·382
14 2541 r 22
15 2·75
16 1·352