

Multiplication and Division

Learning From Home



Answers



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Common Factors

- | | |
|----------------------|---------------|
| 1. 1 | 1. 1, 5 |
| 2. 1, 2, 4, 8 | 2. 1, 2, 3, 6 |
| 3. 1, 2, 3, 6 | 3. 1, 2, 4 |
| 4. 4, 1, 3, 7, 21 | 4. 1, 3, 9 |
| 5. 1, 2, 5, 10 | |
| 6. 1, 2, 4 | |
| 7. 1, 3, 9 | |
| 8. 1, 2, 3, 4, 6, 12 | |

Finding Prime Factors

A	48	$2 \times 2 \times 2 \times 3 \times 2$
B	24	$2 \times 2 \times 2 \times 3$
C	44	$2 \times 2 \times 11$
D	42	$2 \times 3 \times 7$
E	60	$2 \times 2 \times 3 \times 5$
F	88	$2 \times 2 \times 2 \times 11$
G	96	$2 \times 2 \times 2 \times 2 \times 2 \times 3$
H	72	$2 \times 2 \times 2 \times 3 \times 3$
I	105	$3 \times 5 \times 7$
J	462	$2 \times 3 \times 7 \times 11$

Identifying Prime Numbers 1 to 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Recalling Prime Numbers 0-19

A. Write out the prime numbers between 0-19 with your weaker hand!
2, 3, 5, 7, 11, 13, 17, 19

B. Write the prime numbers out in descending order (highest to lowest).
19, 17, 13, 11, 7, 5, 3, 2

C. Which three prime numbers are missing?
13, 7, 19, 2, 5, 3, 17, 11

D. Circle the prime numbers.

six one nine
fifteen **19** thirteen

7 **17** ¹⁵ ~~15~~ ~~13~~ ~~11~~

Long Multiplication Practice – 3 Digits × 2 Digits

1.

		1	6	1
×			2	3
		4	8	3
	3	2	2	0
	3	7	0	3

2.

		2	3	2
×			2	6
	1	3	9	2
	4	6	4	0
	6	0	3	2

3.

		6	1	4
×			1	8
	4	9	1	2
	6	1	4	0
1	1	0	5	2

4.

		9	6	9
×			9	5
	4	8	4	5
8	7	2	1	0
9	2	0	5	5

5.

		7	4	0
×			9	6
	4	4	4	0
6	6	6	0	0
7	1	0	4	0

6.

		3	6	2
×			5	8
	2	8	9	6
1	8	1	0	0
2	0	9	9	6

7.

		3	0	5
×			7	1
	3	0	5	
2	1	3	5	0
2	1	6	5	5

8.

		3	7	0
×			6	4
	1	4	8	0
2	2	2	0	0
2	3	6	8	0

9.

		5	8	4
×			1	5
	2	9	2	0
	5	8	4	0
	8	7	6	0

10.

		8	5	1
×			8	9
	7	6	5	9
6	8	0	8	0
7	5	7	3	9

11.

		7	4	9
×			9	8
	5	9	9	2
6	7	4	1	0
7	3	4	0	2

12.

		4	8	2
×			2	3
	1	4	4	6
	9	6	4	0
1	1	0	8	6

13.

		6	4	6
×			1	0
				0
	6	4	6	0
	6	4	6	0

14.

		7	0	9
×			1	7
	4	9	6	3
	7	0	9	0
1	2	0	5	3

15.

		9	1	4
×			5	7
	6	3	9	8
4	5	7	0	0
5	2	0	9	8

16.

		7	1	8
×			4	5
	3	5	9	0
2	8	7	2	0
3	2	3	1	0

Long Multiplication Practice – 4 Digits × 2 Digits

1.					
		2	1	9	0
×				6	9
	1	9	7	1	0
1	3	1	4	0	0
1	5	1	1	1	0

2.					
		1	3	4	2
×				5	2
		2	6	8	4
	6	7	1	0	0
	6	9	7	8	4

3.					
		1	5	2	1
×				7	3
		4	5	6	3
1	0	6	4	7	0
1	1	1	0	3	3

4.					
		1	1	4	3
×				3	4
		4	5	7	2
	3	4	2	9	0
	3	8	8	6	2

5.					
		2	4	6	8
×				2	7
	1	7	2	7	6
	4	9	3	6	0
	6	6	6	3	6

6.					
		1	8	9	5
×				4	6
	1	1	3	7	0
	7	5	8	0	0
	8	7	1	7	0

7.					
		1	4	6	2
×				7	0
					0
1	0	2	3	4	0
1	0	2	3	4	0

8.					
		1	2	3	9
×				1	9
	1	1	1	5	1
	1	2	3	9	0
	2	3	5	4	1

9.					
		1	3	5	9
×				7	7
		9	5	1	3
	9	5	1	3	0
1	0	4	6	4	3

10.					
		2	1	2	7
×				4	8
	1	7	0	1	6
	8	5	0	8	0
1	0	2	0	9	6

11.					
		1	9	2	0
×				1	2
		3	8	4	0
	1	9	2	0	0
	2	3	0	4	0

12.					
		2	2	9	1
×				4	0
					0
	9	1	6	4	0
	9	1	6	4	0

Multiplication Grids

- 6139 × 7 = 42 973
- 6975 × 3 = 20 925
- 8283 × 5 = 41 415
- 5620 × 5 = 28 100
- 2407 × 9 = 21 663

- 3922 × 5 = 19 610
- 3349 × 7 = 23 443
- 8482 × 5 = 42 410
- 1945 × 7 = 13 615
- 5856 × 5 = 29 280

Without Grids

- 6586 × 5 = 32 930
- 6682 × 9 = 60 138
- 9870 × 4 = 39 480
- 1476 × 4 = 5904
- 4217 × 7 = 29 519

- 1815 × 6 = 10 890
- 8292 × 8 = 66 336
- 8940 × 8 = 71 520
- 5512 × 5 = 27 560
- 9706 × 8 = 77 648

Halving to Divide by 4, 8 and 16

	halve ($\div 2$)	$\div 4$	$\div 8$	$\div 16$
848	424	212	106	53
864	432	216	108	54
224	112	56	28	14
1488	744	372	186	93
784	392	196	98	49
192	96	48	24	12
1072	536	268	134	67
480	240	120	60	30
528	264	132	66	33
320	160	80	40	20
3392	1696	848	424	212
15 344	7672	3836	1918	959
13 264	6632	3316	1658	829
15 264	7632	3816	1908	954
10 768	5384	2692	1346	673
3376	1688	844	422	211
7936	3968	1984	992	496
12 288	6144	3072	1536	768
10 448	5224	2612	1306	653
3952	1976	988	494	247
107 216	53 608	26 804	13 402	6701
39 296	19 648	9824	4912	2456
126 480	63 240	31 620	15 810	7905

Doubling to Multiply by 4, 8 and 16

	Double ($\times 2$)	$\times 4$	$\times 8$	$\times 16$
21	42	84	168	336
76	152	304	608	1216
63	126	252	504	1008
58	116	232	464	928
92	184	368	736	1472
85	170	340	680	1360
91	182	364	728	1456
95	190	380	760	1520
40	80	160	320	640
47	94	188	376	752
157	314	628	1256	2512
311	622	1244	2488	4976
959	1918	3836	7672	15 344
341	682	1364	2728	5456
174	348	696	1392	2784
724	1448	2896	5792	11 584
532	1064	2128	4256	8512
975	1950	3900	7800	15 600
731	1462	2924	5848	11 696
826	1652	3304	6608	13 216
1818	3636	7272	14 544	29 088
4759	9518	19 036	38 072	76 144
1369	2738	5476	10 952	21 904

Dividing Multiples of 10 by 1-Digit Numbers

1. $250 \div 5 = 50$

2. $100 \div 5 = 20$

3. $80 \div 1 = 80$

4. $720 \div 8 = 90$

5. $180 \div 9 = 20$

6. $70 \div 1 = 70$

7. $420 \div 6 = 70$

8. $60 \div 6 = 10$

9. $200 \div 4 = 50$

10. $270 \div 3 = 90$

11. $450 \div 5 = 90$

12. $60 \div 3 = 20$

13. $240 \div 8 = 30$

14. $300 \div 6 = 50$

15. $150 \div 5 = 30$

16. $50 \div 1 = 50$

17. $200 \div 4 = 50$

18. $120 \div 2 = 60$

19. $60 \div 3 = 20$

20. $180 \div 3 = 60$

21. $200 \div 5 = 40$

22. $90 \div 3 = 30$

23. $250 \div 5 = 50$

24. $630 \div 7 = 90$

25. $120 \div 6 = 20$

26. $560 \div 8 = 70$

27. $40 \div 4 = 10$

28. $160 \div 8 = 20$

29. $810 \div 9 = 90$

30. $40 \div 4 = 10$

Dividing Multiples of 10

1. $400 \div 50 = 80$
2. $3600 \div 60 = 60$
3. $1800 \div 90 = 20$
4. $400 \div 20 = 20$
5. $1000 \div 20 = 50$
6. $1600 \div 20 = 80$
7. $1400 \div 70 = 20$
8. $1800 \div 60 = 30$
9. $1800 \div 90 = 20$
10. $2500 \div 50 = 50$
11. $4500 \div 90 = 50$
12. $1800 \div 60 = 30$
13. $300 \div 10 = 30$
14. $2800 \div 70 = 40$
15. $1000 \div 50 = 20$
16. $1200 \div 30 = 40$
17. $1200 \div 60 = 20$
18. $4500 \div 90 = 50$
19. $1600 \div 20 = 80$
20. $400 \div 10 = 40$
21. $1200 \div 60 = 20$
22. $2400 \div 80 = 30$
23. $2400 \div 60 = 40$
24. $1000 \div 20 = 50$
25. $3200 \div 80 = 40$
26. $2400 \div 80 = 30$
27. $600 \div 20 = 30$
28. $900 \div 30 = 30$
29. $600 \div 30 = 20$
30. $8100 \div 90 = 90$

Multiplying Multiples of 10 by 1-Digit Numbers

1. $80 \times 7 = 560$
2. $10 \times 8 = 80$
3. $70 \times 1 = 70$
4. $50 \times 3 = 150$
5. $70 \times 5 = 350$
6. $50 \times 5 = 250$
7. $70 \times 7 = 490$
8. $60 \times 2 = 120$
9. $20 \times 8 = 160$
10. $90 \times 2 = 180$
11. $30 \times 2 = 60$
12. $60 \times 5 = 300$
13. $50 \times 2 = 100$
14. $70 \times 9 = 630$
15. $50 \times 6 = 300$
16. $30 \times 2 = 60$
17. $90 \times 3 = 270$
18. $80 \times 1 = 80$
19. $70 \times 8 = 560$
20. $60 \times 2 = 120$
21. $80 \times 3 = 240$
22. $40 \times 7 = 280$
23. $10 \times 2 = 20$
24. $60 \times 3 = 180$
25. $10 \times 2 = 20$
26. $30 \times 9 = 270$
27. $10 \times 4 = 40$
28. $40 \times 2 = 80$
29. $80 \times 7 = 560$
30. $30 \times 3 = 90$

Multiplying Multiples of 10 by 1-Digit Numbers

1. $40 \times 8 = 320$
2. $20 \times 5 = 100$
3. $70 \times 2 = 140$
4. $60 \times 4 = 240$
5. $80 \times 4 = 320$
6. $20 \times 7 = 140$
7. $80 \times 7 = 560$
8. $40 \times 9 = 360$
9. $20 \times 8 = 160$
10. $60 \times 2 = 120$
11. $90 \times 2 = 180$
12. $80 \times 5 = 400$
13. $70 \times 3 = 210$
14. $60 \times 9 = 540$
15. $20 \times 6 = 120$
16. $50 \times 3 = 150$
17. $50 \times 5 = 250$
18. $70 \times 8 = 560$
19. $30 \times 8 = 240$
20. $30 \times 7 = 210$
21. $20 \times 3 = 60$
22. $80 \times 4 = 320$
23. $20 \times 2 = 40$
24. $30 \times 6 = 180$
25. $30 \times 2 = 60$
26. $80 \times 9 = 720$
27. $70 \times 4 = 280$
28. $90 \times 5 = 450$
29. $10 \times 7 = 70$
30. $90 \times 3 = 270$

Short Division

1.

	2	0	r	1		
2	4	1				

2.

		3	2	r	1	
8	2	5	7			

3.

		4	4	r	3	
9	3	9	9			

4.

		4	2	r	4	
5	2	1	4			

5.

		7	7	r	6	
7	5	4	5			

6.

		9	6	r	3	
9	8	6	7			

7.

		8	6	r	3	
5	4	3	3			

8.

		2	7	r	2	
5	1	3	7			

9.

		6	2	r	5	
7	4	3	9			

10.

		6	1	r	1	
8	4	8	9			

11.

		3	1	r	1	
1	1	3	4	2		

12.

		2	4	r	1	0
1	2	2	9	8		

Short Division Practice 4 Digits Divided By 1 Digit

1.

	1	4	7	6		
2	2	9	5	2		

2.

	1	7	0	2		
4	6	8	0	8		

3.

	2	4	1	8		
4	9	6	7	2		

4.

	1	6	3	2		
6	9	7	9	2		

5.

	6	3	7			
8	5	0	9	6		

6.

	1	4	8			
9	1	3	3	2		

7.

	1	2	1	1		
8	9	6	8	8		

8.

	6	9	2	r	2	
5	3	4	6	2		

9.

	1	9	1	0	r	3
4	7	6	4	3		

10.

	9	8	8	r	5	
7	6	9	2	1		

11.

	5	0	3	r	5	
9	4	5	3	2		

12.

	2	8	8	4	r	1
3	8	6	5	3		

13.

	4	9	0	r	6	
7	3	4	3	6		

14.

	7	1	5	r	2	
9	6	4	3	7		

Division Word Problems – Interpreting Answers

1. 97 glasses – round down!
2. 108 pots – round up!
3. 70 rooms – round up!
4. 373 packets – round down!
5. 154 bracelets – round down!
6. 86 teams – round down!

Multiplying Whole Numbers by 10

1. $82 \times 10 = 820$
2. $66 \times 10 = 660$
3. $14 \times 10 = 140$
4. $58 \times 10 = 580$
5. $42 \times 10 = 420$
6. $56 \times 10 = 560$
7. $63 \times 10 = 630$
8. $42 \times 10 = 420$
9. $54 \times 10 = 540$
10. $93 \times 10 = 930$
11. $60 \times 10 = 600$
12. $53 \times 10 = 530$
13. $32 \times 10 = 320$
14. $79 \times 10 = 790$
15. $37 \times 10 = 370$
16. $816 \times 10 = 8160$
17. $711 \times 10 = 7110$
18. $287 \times 10 = 2870$
19. $224 \times 10 = 2240$
20. $567 \times 10 = 5670$
21. $302 \times 10 = 3020$
22. $879 \times 10 = 8790$
23. $440 \times 10 = 4400$
24. $379 \times 10 = 3790$
25. $231 \times 10 = 2310$
26. $488 \times 10 = 4880$
27. $507 \times 10 = 5070$
28. $547 \times 10 = 5470$
29. $319 \times 10 = 3190$
30. $179 \times 10 = 1790$

Dividing Numbers by 10

1. $79 \div 10 = 7.9$
2. $87 \div 10 = 8.7$
3. $75 \div 10 = 7.5$
4. $23 \div 10 = 2.3$
5. $43 \div 10 = 4.3$
6. $26 \div 10 = 2.6$
7. $43 \div 10 = 4.3$
8. $39 \div 10 = 3.9$
9. $69 \div 10 = 6.9$
10. $13 \div 10 = 1.3$
11. $45 \div 10 = 4.5$
12. $98 \div 10 = 9.8$
13. $95 \div 10 = 9.5$
14. $71 \div 10 = 7.1$
15. $87 \div 10 = 8.7$
16. $779 \div 10 = 77.9$
17. $398 \div 10 = 39.8$
18. $761 \div 10 = 76.1$
19. $797 \div 10 = 79.7$
20. $427 \div 10 = 42.7$
21. $402 \div 10 = 40.2$
22. $224 \div 10 = 22.4$
23. $998 \div 10 = 99.8$
24. $354 \div 10 = 35.4$
25. $336 \div 10 = 33.6$
26. $276 \div 10 = 27.6$
27. $384 \div 10 = 38.4$
28. $901 \div 10 = 90.1$
29. $711 \div 10 = 71.1$
30. $943 \div 10 = 94.3$

Multiplying and Dividing by 100 and 1000

× 1000	× 100	
12 000	1200	12
157 000	15 700	157
1 425 000	142 500	1425
4500	450	4.5
250	25	0.25

	÷ 100	÷ 1000
18 000	180	18
458 000	4580	458
7600	76	7.6
950	9.5	0.95
516	5.16	0.516

Dividing Whole Numbers by 10

1. $820 \div 10 = 82$
2. $630 \div 10 = 63$
3. $170 \div 10 = 17$
4. $950 \div 10 = 95$
5. $210 \div 10 = 21$
6. $930 \div 10 = 93$
7. $560 \div 10 = 56$
8. $530 \div 10 = 53$
9. $440 \div 10 = 44$
10. $180 \div 10 = 18$
11. $340 \div 10 = 34$
12. $940 \div 10 = 94$
13. $230 \div 10 = 23$
14. $460 \div 10 = 46$
15. $150 \div 10 = 15$
16. $7200 \div 10 = 720$
17. $3680 \div 10 = 368$
18. $7950 \div 10 = 795$
19. $7410 \div 10 = 741$
20. $2800 \div 10 = 280$
21. $3030 \div 10 = 303$
22. $5520 \div 10 = 552$
23. $3650 \div 10 = 365$
24. $2290 \div 10 = 229$
25. $7450 \div 10 = 745$
26. $7650 \div 10 = 765$
27. $2680 \div 10 = 268$
28. $8610 \div 10 = 861$
29. $5070 \div 10 = 507$
30. $7300 \div 10 = 730$

Using and Recognising Square and Cube Numbers

A. Complete the table.

1^2	1×1	1
2^2	2×2	4
3^2	3×3	9
4^2	4×4	16
5^2	5×5	25
6^2	6×6	36
7^2	7×7	49
8^2	8×8	64
9^2	9×9	81
10^2	10×10	100

B. Complete the table.

1^3	$1 \times 1 \times 1$	1
2^3	$2 \times 2 \times 2$	8
3^3	$3 \times 3 \times 3$	27
4^3	$4 \times 4 \times 4$	64
5^3	$5 \times 5 \times 5$	125
6^3	$6 \times 6 \times 6$	216
7^3	$7 \times 7 \times 7$	343
8^3	$8 \times 8 \times 8$	512
9^3	$9 \times 9 \times 9$	729
10^3	$10 \times 10 \times 10$	1000

C. Calculate the missing numbers.

a) $7^2 + 4^3 = 113$	b) $8^2 + 10^2 = 164$	c) $5^3 - 5^2 = 100$
d) $5^2 + 8^2 = 89$	e) $9^2 - 8^2 = 17$	f) $3^2 \times 2^3 = 72$
g) $3^2 + 4^2 = 5^2$	h) $6^3 \div 2^2 = 54$	i) $13^2 = 169$
j) $10^3 - 2^2 = 996$	k) $100^2 = 10\,000$	l) $12^2 = 144$

Missing Number Multiplication and Division

1. 887
2. 3876
3. 760
4. 749
5. 572
6. 963
7. 612
8. 1748
9. 3425
10. 466
11. 1848
12. 683
13. 3952
14. 279
15. 2352
16. 2828
17. 173 802
18. 181 692
19. 197 270
20. 201 143
21. 213 000
22. 227 995
23. 2 323 265
24. 2 411 613
25. 256 935
26. 264 428
27. 2 725 506
28. 281 244
29. 2 913 972
30. 3 046 935

Crack the Code with Factors, Multiples, Square Numbers and Cube Numbers

Which number?	Notes/Number	Letter
This number is a multiple of seven and two and is a factor of 28.	14	N
This number is a square number, a multiple of three and one more than a cube number.	9	I
This number is a prime number and a factor of 36.	3	C
When this number is squared, the answer is the largest square number in the list above.	5	E
This prime number is > 19 and < 29 .	23	W
This number is a multiple of five and three.	15	O
This multiple of nine is in between two prime numbers.	18	R
This number is the difference between 5^2 and 6^2 .	11	K

Understanding the Equals Sign

- $6 \times 7 = 42$
- $30 = 5 \times 6$
- $10 \div 5 = 1 + 1$
- $2^2 + 5 = 3^2$
- $4 \times 9 = 18 \times 2$
- $6 \times 4 = 2 \times 12$
- $2 + 3 + 4 = 3^2$
- $14 \div 1 = 13 + 1$
- $48 \div 8 = 36 \div 6$
- $1 + 2 + 3 + 4 + 5 = 100 - 85$
- $21 + 9 = 10 \times 3$
- $5^2 - 1 = 4 \times 6$
- $34 \div 2 = 10 + 10 - 3$
- $64 + 36 = 82 + 18$
- $4 \times 400 = 1600 \times 1$
- $26 \times 0 = 0 \times 43$
- $3^3 = 23 + 4$
- $0.7 + 0.3 = 5 - 4$
- $12 \times 12 = 132 + 12$
- $50\% \text{ of } 50 = 25\% \text{ of } 100$

Solving Problems Involving Simple Rates

- | | |
|----------------------|--------------------------|
| 1. 100 miles | 5. Ben – average 70 kmph |
| 2. 63 pieces of work | 6. 6 for £1.20 |
| 3. 5 hours | 7. Julie |
| 4. 55 000 litres | 8. 1 hour and 40 minutes |


Problems Involving an Understanding of Equals

- Equation: $22 \times 100 = 5 \times 440$
- Equation: $25 \times 40 = 10 \times 100$
- Equation: $6 \times 23 = 3 \times 46$
- Equation: $200 \times 40 = 250 \times 32$

Multiplication and Division


Piggy Bank Problems

A. How many of each coin is in the piggy bank?




43

86p



29


£1.45



38

£7.60


B. How many of each coin is in the piggy bank?



£1.76

26


15



£9.16

48

41



£10.60

19


55

C. How many of each coin could be in the piggy bank?



£1.67

Any combination totalling £1.67



£3.05

Any combination totalling £3.05



£35.10


Any combination totalling £35.10

D. How do these circumstances affect the amounts in these savers' piggy banks?



Sonia

£8.26



Krystal

£2.72

Sonia gives half of her money to Krystal.

£4.13

£6.85

They both save until they have doubled their money.

£16.52

£5.44

They add their money together and share it between themselves equally.

£5.49

£5.49

