4 How to • • • • • • • • • Multiply by 10, 100, and 1000

Facts to Know

You can use mental math to multiply by 10. With practice you can probably multiply these problems in your head as quickly as you can use a calculator!

- To multiply any number by 10, just add a zero to the number being multiplied.

  If you have 10 bags of candy and each bag has 32 candies, you would have 320 candies altogether.

Sample A

```
  32
x 10
----
 320
```

32 x 10 = 320

- To multiply any number by 100, just add two zeros to the number being multiplied.

  If you have 100 hundred bags and each bag has 45 marbles, you would have a total of 4500 marbles.

Sample B

```
  45
x 100
-----
4,500
```

1 (00) x 45 = 4,5 (00)

- To multiply any number by 1000, just add three zeros to the number being multiplied.

Sample C

```
  3569
 x 1000
-------
3,569,000
```

1 (000) x 3569 = 3,569, (000)

- Place commas in answers where needed. **85 x 1000 = 85,000**

Shortcut to Finding the Product When Factors Are Multiples of 10

When one or more of the numbers being multiplied are multiples of 10, follow these steps:

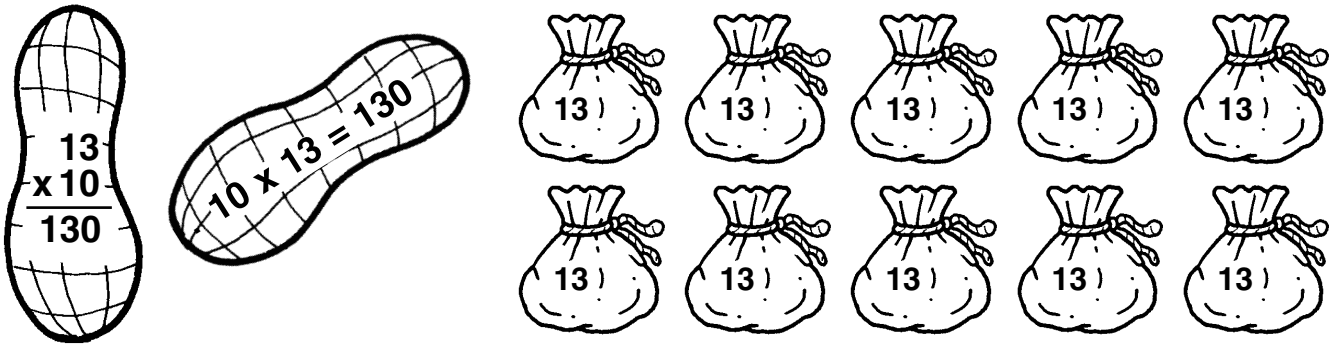
```
2,000,000
 x 12,000
---------
```

1. Multiply the parts of each factor that are not zeros. (2 x 12 = 24)
2. For each of the numbers being multiplied, find the number of zeros from left to right (before reaching a non-zero number) and add the same number of zeros to the product. (In this example, there are 9 zeros. The product should have 9 zeros.)

2,(000,000) x 12,(000) = 24,(000,000,000)

4 Practice • • • • • • • • • • • • • • • • • Multiplying by 10

To multiply any number by 10, just add a 0 to the number being multiplied.



Each bag holds 13 peanuts. There are 10 bags. Altogether there are 130 peanuts.

Directions: Use the information on page 17 to compute these answers.

1. 14 x 10

2. 16 x 10

3. 45 x 10

4. 65 x 10

5. 19 x 10

6. 17 x 10

7. 22 x 10

8. 37 x 10

9. 38 x 10

10. 98 x 10

11. 76 x 10

12. 65 x 10

13. 68 x 10 = ____

14. 77 x 10 = ____

15. 73 x 10 = ____

16. 33 x 10 = ____

17. 35 x 10 = ____

18. 53 x 10 = ____

Directions: Compute these answers in your mind. Write the answer in the space provided.

19. 986 x 10

20. 872 x 10

21. 621 x 10

22. 765 x 10

23. 543 x 10

24. 9767 x 10

25. 7502 x 10

26. 1043 x 10

27. 8976 x 10 = ____

28. 6004 x 10 = ____

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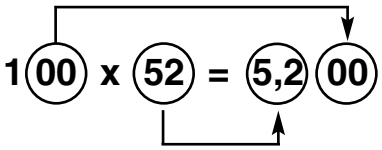
4 Practice • • • • • • • • • • • • • • • • • Multiplying by 100

To multiply by 100, add two zeros to the number being multiplied.

$$\begin{array}{r} 52 \\ \times\ 100 \\ \hline 5{,}200 \end{array}$$



There are 52 playing cards in a regular deck of cards. In 100 decks of cards there are 5,200 cards.

Directions: Use the information on page 17 to help you compute these answers.

1. 7 x 100 = _____ **2.** 8 x 100 = _____ **3.** 4 x 100 = _____

4. 43 x 100 = _____ **5.** 32 x 100 = _____ **6.** 51 x 100 = _____

7. 54 x 100 **8.** 26 x 100 **9.** 62 x 100 **10.** 98 x 100

11. 989 x 100 **12.** 447 x 100 **13.** 826 x 100 **14.** 73 x 100

15. 659 x 100 _____ **16.** 749 x 100 = _____

17. 8974 x 100 **18.** 5,439 x 100 **19.** 5638 x 100

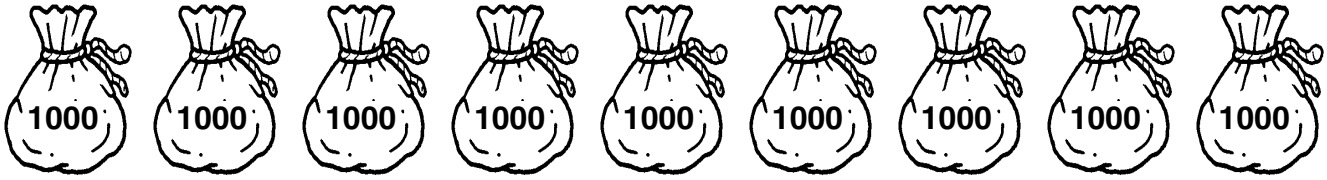
20. 6,549 x 100 = _____ **21.** 8732 x 100 = _____

22. 22,202 x 100 **23.** 65,804 x 100 **24.** 97,527 x 100

25. 765,905 x 100 = _____

4 Practice • • • • • • • • • • • • • • • • Multiplying by 1000

To multiply by 1000, add three zeros to the number being multiplied.



If you have 9 bags of marbles and each bag has 1000 marbles in it, there are 9000 marbles altogether.

9 x 1000 = 9,000

Directions: Use the information on page 17 to help you compute these answers.

1. 5 x 1000 = _____ **2.** 7 x 1000 = _____ **3.** 3 x 1000 = _____

4. 65 x 1000 = _____ **5.** 23 x 1000 = _____ **6.** 14 x 1000 = _____

7. 67 x 1000 **8.** 21 x 1000 **9.** 99 x 1000 **10.** 76 x 1000

11. 654 x 1000 **12.** 785 x 1000 **13.** 806 x 1000 **14.** 117 x 1000

3467
x 1000
3,467,000

4594 x 1000 = 4,594,000

Directions: Use the sample above to help you solve these problems.

15. 3943 x 1000 **16.** 4607 x 1000 **17.** 1840 x 1000

18. 5006 x 1000 **19.** 9478 x 1000 **20.** 2001 x 1000

21. 7958 x 1000 = _____ **22.** 2980 x 1000 = _____

23. 43767 x 1000 = _____ **24.** 99,759 x 1000 = _____

25. 876,423 x 1000 = _____ **26.** 756,000 x 1000 = _____

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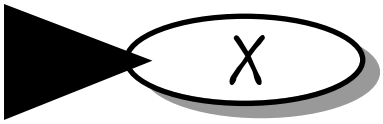

Answer Key

Page 6

1. 32
2. 32
3. 30
4. 30
5. 21
6. 21
7. 45
8. 45
9. 72
10. 72
11. 40
12. 40
13. 42
14. 32
15. 63
16. 72
17. 96
18. 35
19. 64
20. 72
21. 24
22. 121
23. 56
24. 63

Page 7

sample 24

1. 54
2. 49
3. 40
4. 36
5. 72
6. 64
7. 56
8. 54
9. 55
10. 24
11. 36
12. 96
13. 99
14. 56
15. 24
16. 12
17. 12
18. 108
19. 108
20. 110
21. 110
22. 35
23. 35
24. 48
25. 48
26. 63
27. 63
28. 49
29. 81
30. 144
31. 36
32. 25
33. 100

Page 8

sample 18, 20, 22, 24

1. 21, 24, 27, 30
2. 30, 35, 40, 45, 50, 55, 60
3. 20, 24, 28, 32, 36, 40, 44, 48
4. 45, 54, 63, 72, 81, 90, 99, 108
5. 50, 60, 70, 80, 90, 100, 110, 120
6. 35, 42, 49, 56, 63, 70, 77, 84
7. 10, 12, 14, 16, 18, 20, 22, 24
8. 5, 6, 7, 8, 9, 10, 11, 12
9. 30, 36, 42, 48, 54, 60, 66, 72
10. 72, 84, 96, 108, 120, 132, 144
11. 3
12. 12
14. 78
15. 10

Page 10

1. 21
2. 20
3. 42
4. 27
5. 40
6. 48
7. 45
8. 36
9. 24
10. 36
11. 42
12. 54
13. 99
14. 96
15. 80
16. 40
17. 9
18. 81
19. 48
20. 72
21. 33
22. 99
23. 49
24. 63
25. 88
26. 77
27. 18
28. 66
29. 33
30. 90

Page 11

1. 5, 2, 3
2. 7, 2, 2
3. 7, 2, 3
4. 11, 2, 2
5. 5, 2, 5
6. 11, 2, 3
7. 11, 7
8. 7, 3, 3
9. 3, 5
10. 2, 3, 3
11. 11, 2
12. 2, 2, 3, 3
13. 2, 2, 2
14. 2, 2, 2, 2, 2
15. 5, 5
16. 5, 5, 5

Page 12

1. 8
2. 8
3. 9
4. 5
5. 6
6. 5
7. 3
8. 9
9. 9
10. 7
11. 9
12. 12
13. 8
14. 9
15. 9
16. 8
17. 8
18. 4
19. 9
20. 5
21. 11
22. 11
23. 2
24. 5
25. 8, 8
26. 10,1 0
27. 6, 6
28. 9, 9
29. 7, 7
30. 11, 11

Page 14

1. 128
2. 129
3. 28
4. 99
5. 46
6. 48
7. 86
8. 67
9. 68
10. 146
11. 124
12. 69
13. 205
14. 88
15. 88
16. 186
17. 48
18. 99

Page 15

1. 117
2. 441
3. 154
4. 148
5. 288
6. 330
7. 175
8. 228
9. 378
10. 108
11. 235
12. 440
13. 252
14. 325
15. 756
16. 525
17. 486
18. 891
19. 343
20. 632

Page 16

1. 1,107
2. 2,568
3. 615
4. 2,595
5. 3,708
6. 6,223
7. 3,320
8. 6,237
9. 4,434
10. 5,229
11. 8,991
12. 2,752
13. 5,495
14. 1,821
15. 6,279
16. 4,216
17. 3,944
18. 981

Page 18

1. 140
2. 160
3. 450
4. 650
5. 190
6. 170
7. 220
8. 370
9. 380
10. 980
11. 760
12. 650
13. 680
14. 770
15. 730
16. 330
17. 350
18. 530
19. 9,860
20. 8,720
21. 6,210
22. 7,650
23. 5,430
24. 97,670
25. 75,020
26. 10,430
27. 89,760
28. 60,040

Page 19

1. 700
2. 800
3. 400
4. 4,300
5. 3,200
6. 5,100
7. 5,400
8. 2,600
9. 6,200
10. 9,800
11. 98,900
12. 44,700
13. 82,600
14. 7,300
15. 65,900
16. 74,900
17. 897,400
18. 543,900
19. 563,800
20. 654,900
21. 873,200
22. 2,220,200
23. 6,580,400
24. 9,752,700
25. 76,590,500

Page 20

1. 5,000
2. 7,000
3. 3,000
4. 65,000
5. 23,000
6. 14,000
7. 67,00
8. 21,000
9. 99,000
10. 76,000
11. 654,000
12. 785,000
13. 806,000
14. 117,000
15. 3,943,000
16. 4,607,000
17. 1,840,000
18. 5,006,000
19. 9,478,000
20. 2,001,000
21. 7,958,000
22. 2,980,000
23. 43,767,000
24. 99,759,000
25. 876,423,000
26. 756,000,000

Page 22

1. 360
2. 280
3. 390
4. 760
5. 360
6. 800
7. 1,080
8. 630
9. 560
10. 2,430
11. 1,080
12. 1,250
13. 570
14. 1,540
15. 8,010
16. 2,310
17. 3,960
18. 5,850
19. 340
20. 3,690
21. 1,140
22. 940
23. 1,720
24. 6,960
25. 1,340
26. 2,340

Page 23

1. 12,000
2. 45,000
3. 54,000
4. 28,000
5. 64,000
6. 35,000
7. 14,000
8. 24,000
9. 42,000
10. 9,000
11. 21,000
12. 42,000
13. 6,080
14. 72,560
15. 63,140
16. 20,360
17. 10,450
18. 28,360
19. 36,180
20. 24,270
21. 4,420
22. 18,960
23. 51,870
24. 15,450
25. 26,190
26. 32,920
27. 18,880
28. 51,780

Page 24

1. 46,400
2. 115,200
3. 366,500
4. 269,200
5. 166,600
6. 262,800
7. 289,800
8. 360,500
9. 184,400
10. 196,800
11. 469,800
12. 613,900
13. 255,200
14. 286,200
15. 219,600
16. 93,000
17. 152,600
18. 193,200
19. 478,000
20. 102,300
21. 316,000
22. 467,000
23. 166,500
24. 117,000
25. 557,400