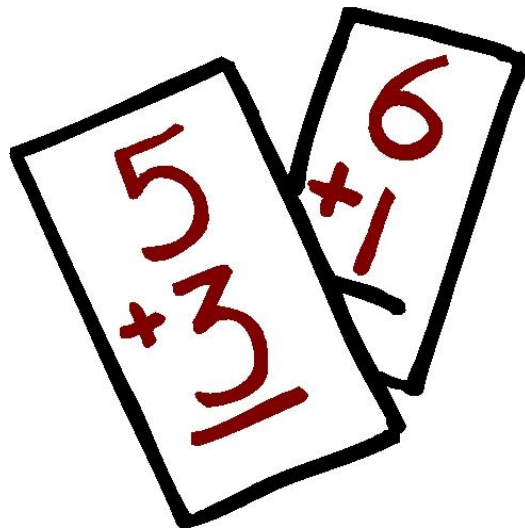




Dr Numsen

Mastering Number Sense

Practice Workbook



Doug Ray

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Preface

The Mastering Number Sense Practice Workbook is the perfect compliment to the two Mastering Number Sense Workbooks, which contain all of the tricks to the problems found in this book. The goal behind the first two workbooks was to introduce the tricks to students in an organized manner so that they could have immediate success in Number Sense, regardless of the grade they are in or the level of Number Sense they have. In those workbooks, the focus was on the tricks, and thus, there were limited practice problems—just enough to get the student comfortable with the tricks and to maintain the skills learned in previous tricks.

This new volume expands on the philosophy that true Number Sense is achieved through practice. Here, ample practice problems are provided for each of the tricks in the two Mastering Number Sense Workbooks. In fact, the practice problems from this book are presented in the same order as in the Mastering Number Sense Workbooks. This should make it easy for students and teachers to find extra practice for the topics covered.

As always, suggestions and errors from the workbook are welcome. Please email me at doug@academicmeet.com with comments.

I hope you enjoy practicing with this workbook as you work your way to Mastering Number Sense!

1 Addition

1. $33 + 45 =$ _____
2. $35 + 88 =$ _____
3. $81 + 36 =$ _____
4. $18 + 30 =$ _____
5. $23 + 65 =$ _____
6. $39 + 28 =$ _____
7. $85 + 29 =$ _____
8. $35 + 89 =$ _____
9. $21 + 63 =$ _____
10. $30 + 41 =$ _____
11. $71 + 38 =$ _____
12. $91 + 94 =$ _____
13. $43 + 96 =$ _____
14. $28 + 57 =$ _____
15. $95 + 71 =$ _____
16. $18 + 15 =$ _____
17. $14 + 56 =$ _____
18. $59 + 85 =$ _____
19. $79 + 60 =$ _____
20. $84 + 76 =$ _____
21. $54 + 83 =$ _____
22. $76 + 22 =$ _____
23. $18 + 46 =$ _____
24. $38 + 63 =$ _____
25. $82 + 48 =$ _____
26. $908 + 312 =$ _____
27. $480 + 576 =$ _____
28. $107 + 926 =$ _____
29. $353 + 422 =$ _____
30. $646 + 377 =$ _____
31. $770 + 337 =$ _____
32. $669 + 578 =$ _____
33. $412 + 357 =$ _____
34. $600 + 911 =$ _____
35. $259 + 991 =$ _____
36. $580 + 228 =$ _____
37. $720 + 753 =$ _____
38. $512 + 303 =$ _____
39. $353 + 130 =$ _____
40. $152 + 843 =$ _____
41. $4940 + 1682 =$ _____
42. $5149 + 3832 =$ _____
43. $9673 + 8397 =$ _____
44. $8239 + 7785 =$ _____
45. $8681 + 7255 =$ _____
46. $2760 + 3029 =$ _____
47. $5008 + 8434 =$ _____
48. $4549 + 7501 =$ _____
49. $7725 + 9333 =$ _____
50. $5411 + 5581 =$ _____

2 Subtraction

1. $49 - 34 =$ _____
2. $62 - 44 =$ _____
3. $74 - 25 =$ _____
4. $32 - 23 =$ _____
5. $40 - 24 =$ _____
6. $63 - 56 =$ _____
7. $39 - 19 =$ _____
8. $38 - 11 =$ _____
9. $97 - 25 =$ _____
10. $54 - 25 =$ _____
11. $74 - 38 =$ _____
12. $42 - 16 =$ _____
13. $68 - 13 =$ _____
14. $97 - 30 =$ _____
15. $90 - 57 =$ _____
16. $58 - 51 =$ _____
17. $49 - 11 =$ _____
18. $31 - 25 =$ _____
19. $21 - 15 =$ _____
20. $25 - 18 =$ _____
21. $28 - 14 =$ _____
22. $57 - 35 =$ _____
23. $86 - 15 =$ _____
24. $81 - 44 =$ _____
25. $30 - 16 =$ _____
26. $795 - 368 =$ _____
27. $520 - 374 =$ _____
28. $925 - 462 =$ _____
29. $585 - 493 =$ _____
30. $745 - 732 =$ _____
31. $871 - 202 =$ _____
32. $136 - 14 =$ _____
33. $948 - 170 =$ _____
34. $847 - 644 =$ _____
35. $184 - 170 =$ _____
36. $129 - 76 =$ _____
37. $536 - 505 =$ _____
38. $539 - 47 =$ _____
39. $694 - 639 =$ _____
40. $295 - 41 =$ _____
41. $8681 - 8676 =$ _____
42. $1762 - 571 =$ _____
43. $7550 - 3071 =$ _____
44. $2044 - 1507 =$ _____
45. $6507 - 2807 =$ _____
46. $6169 - 486 =$ _____
47. $9174 - 6672 =$ _____
48. $5734 - 2241 =$ _____
49. $8764 - 4932 =$ _____
50. $7341 - 2263 =$ _____

3 Multiplication

1. $8 \times 16 =$ _____
2. $14 \times 8 =$ _____
3. $13 \times 8 =$ _____
4. $4 \times 16 =$ _____
5. $12 \times 4 =$ _____
6. $18 \times 6 =$ _____
7. $4 \times 16 =$ _____
8. $6 \times 6 =$ _____
9. $9 \times 15 =$ _____
10. $18 \times 4 =$ _____
11. $19 \times 5 =$ _____
12. $5 \times 15 =$ _____
13. $4 \times 18 =$ _____
14. $15 \times 6 =$ _____
15. $5 \times 8 =$ _____
16. $7 \times 6 =$ _____
17. $5 \times 4 =$ _____
18. $6 \times 15 =$ _____
19. $7 \times 13 =$ _____
20. $14 \times 4 =$ _____
21. $15 \times 4 =$ _____
22. $4 \times 18 =$ _____
23. $5 \times 8 =$ _____
24. $9 \times 4 =$ _____
25. $16 \times 6 =$ _____
26. $120 \times 40 =$ _____
27. $800 \times 1000 =$ _____
28. $90 \times 1000 =$ _____
29. $200 \times 20 =$ _____
30. $800 \times 70 =$ _____
31. $70 \times 800 =$ _____
32. $90 \times 300 =$ _____
33. $12000 \times 60 =$ _____
34. $12000 \times 40 =$ _____
35. $4000 \times 50 =$ _____
36. $400 \times 50 =$ _____
37. $40 \times 12 =$ _____
38. $5000 \times 1200 =$ _____
39. $2000 \times 700 =$ _____
40. $1200 \times 1000 =$ _____
41. $8000 \times 300 =$ _____
42. $80 \times 2 =$ _____
43. $300 \times 800 =$ _____
44. $500 \times 600 =$ _____
45. $40 \times 30 =$ _____
46. $10000 \times 90 =$ _____
47. $10000 \times 7 =$ _____
48. $3000 \times 100 =$ _____
49. $7000 \times 70 =$ _____
50. $8000 \times 3 =$ _____

4 Division

1. $76 \div 19 =$ _____
2. $98 \div 14 =$ _____
3. $60 \div 15 =$ _____
4. $121 \div 11 =$ _____
5. $64 \div 16 =$ _____
6. $112 \div 8 =$ _____
7. $63 \div 9 =$ _____
8. $70 \div 7 =$ _____
9. $120 \div 8 =$ _____
10. $44 \div 4 =$ _____
11. $68 \div 17 =$ _____
12. $119 \div 17 =$ _____
13. $119 \div 17 =$ _____
14. $40 \div 4 =$ _____
15. $104 \div 13 =$ _____
16. $144 \div 12 =$ _____
17. $75 \div 15 =$ _____
18. $102 \div 17 =$ _____
19. $80 \div 10 =$ _____
20. $35 \div 5 =$ _____
21. $96 \div 16 =$ _____
22. $112 \div 7 =$ _____
23. $76 \div 19 =$ _____
24. $121 \div 11 =$ _____
25. $60 \div 10 =$ _____
26. $77000 \div 110 =$ _____
27. $3600 \div 120 =$ _____
28. $800 \div 20 =$ _____
29. $120000 \div 400 =$ _____
30. $80000 \div 200 =$ _____
31. $3300 \div 110 =$ _____
32. $200 \div 4 =$ _____
33. $6000000 \div 500 =$ _____
34. $1400 \div 70 =$ _____
35. $140 \div 2 =$ _____
36. $3600 \div 30 =$ _____
37. $4200 \div 6 =$ _____
38. $3200 \div 8 =$ _____
39. $240 \div 8 =$ _____
40. $72000 \div 120 =$ _____
41. $96000 \div 8 =$ _____
42. $1500 \div 50 =$ _____
43. $800 \div 4 =$ _____
44. $220 \div 11 =$ _____
45. $6300 \div 90 =$ _____
46. $66000 \div 6 =$ _____
47. $55000 \div 50 =$ _____
48. $33000 \div 110 =$ _____
49. $360 \div 9 =$ _____
50. $60 \div 3 =$ _____

5 Multiplying and Dividing Three Numbers

1. $3 \times 10 \times 5 =$ _____
2. $9 \times 10 \times 5 =$ _____
3. $8 \times 2 \times 10 =$ _____
4. $3 \times 7 \times 12 =$ _____
5. $5 \times 8 \times 12 =$ _____
6. $2 \times 12 \times 7 =$ _____
7. $12 \times 4 \times 8 =$ _____
8. $8 \times 3 \times 7 =$ _____
9. $5 \times 7 \times 11 =$ _____
10. $8 \times 12 \times 5 =$ _____
11. $10 \times 10 \times 7 =$ _____
12. $4 \times 5 \times 10 =$ _____
13. $12 \times 4 \times 8 =$ _____
14. $4 \times 8 \times 7 =$ _____
15. $5 \times 12 \times 4 =$ _____
16. $5 \times 5 \times 10 =$ _____
17. $9 \times 12 \times 7 =$ _____
18. $11 \times 4 \times 11 =$ _____
19. $8 \times 6 \times 2 =$ _____
20. $9 \times 8 \times 11 =$ _____
21. $5 \times 9 \times 3 =$ _____
22. $10 \times 9 \times 8 =$ _____
23. $11 \times 6 \times 2 =$ _____
24. $10 \times 8 \times 9 =$ _____
25. $2 \times 9 \times 12 =$ _____
26. $60 \div 2 \div 3 =$ _____
27. $378 \div 9 \div 6 =$ _____
28. $315 \div 7 \div 5 =$ _____
29. $42 \div 2 \div 3 =$ _____
30. $54 \div 3 \div 6 =$ _____
31. $144 \div 4 \div 4 =$ _____
32. $384 \div 8 \div 6 =$ _____
33. $486 \div 9 \div 6 =$ _____
34. $180 \div 2 \div 9 =$ _____
35. $90 \div 3 \div 6 =$ _____
36. $154 \div 7 \div 2 =$ _____
37. $48 \div 2 \div 8 =$ _____
38. $132 \div 6 \div 2 =$ _____
39. $175 \div 7 \div 5 =$ _____
40. $24 \div 4 \div 3 =$ _____
41. $336 \div 7 \div 8 =$ _____
42. $81 \div 9 \div 3 =$ _____
43. $360 \div 8 \div 5 =$ _____
44. $48 \div 3 \div 4 =$ _____
45. $392 \div 8 \div 7 =$ _____
46. $108 \div 2 \div 6 =$ _____
47. $198 \div 6 \div 3 =$ _____
48. $192 \div 4 \div 6 =$ _____
49. $392 \div 7 \div 7 =$ _____
50. $162 \div 9 \div 9 =$ _____

6 Multiplication and Division Mixed

1. $36 \times 9 \div 4 =$ _____
2. $2 \times 63 \div 7 =$ _____
3. $2 \times 45 \div 5 =$ _____
4. $3 \times 63 \div 9 =$ _____
5. $5 \times 42 \div 7 =$ _____
6. $24 \times 3 \div 4 =$ _____
7. $56 \times 12 \div 8 =$ _____
8. $21 \times 7 \div 3 =$ _____
9. $30 \times 6 \div 5 =$ _____
10. $36 \times 9 \div 4 =$ _____
11. $20 \times 10 \div 4 =$ _____
12. $12 \times 54 \div 9 =$ _____
13. $27 \times 9 \div 9 =$ _____
14. $56 \times 5 \div 8 =$ _____
15. $12 \times 11 \div 4 =$ _____
16. $8 \times 10 \div 4 =$ _____
17. $64 \times 2 \div 8 =$ _____
18. $3 \times 48 \div 6 =$ _____
19. $81 \times 12 \div 9 =$ _____
20. $3 \times 40 \div 8 =$ _____
21. $48 \times 3 \div 6 =$ _____
22. $35 \times 2 \div 5 =$ _____
23. $8 \times 12 \div 4 =$ _____
24. $63 \times 12 \div 9 =$ _____
25. $4 \times 30 \div 5 =$ _____
26. $5 \times 56 \div 8 =$ _____
27. $10 \times 18 \div 3 =$ _____
28. $8 \times 7 \div 4 =$ _____
29. $9 \times 40 \div 4 =$ _____
30. $4 \times 12 \div 2 =$ _____
31. $32 \times 4 \div 8 =$ _____
32. $7 \times 96 \div 8 =$ _____
33. $45 \times 12 \div 5 =$ _____
34. $11 \times 4 \div 2 =$ _____
35. $45 \times 11 \div 5 =$ _____
36. $7 \times 30 \div 6 =$ _____
37. $10 \times 5 \div 5 =$ _____
38. $4 \times 81 \div 9 =$ _____
39. $7 \times 18 \div 3 =$ _____
40. $11 \times 42 \div 6 =$ _____
41. $3 \times 14 \div 2 =$ _____
42. $24 \times 7 \div 6 =$ _____
43. $35 \times 4 \div 5 =$ _____
44. $24 \times 5 \div 4 =$ _____
45. $54 \times 8 \div 9 =$ _____
46. $25 \times 8 \div 5 =$ _____
47. $6 \times 2 \div 3 =$ _____
48. $12 \times 10 \div 2 =$ _____
49. $12 \times 70 \div 7 =$ _____
50. $32 \times 3 \div 8 =$ _____

7 Multiplication by 11

1. $24 \times 11 =$ _____
2. $61 \times 11 =$ _____
3. $35 \times 11 =$ _____
4. $95 \times 11 =$ _____
5. $54 \times 11 =$ _____
6. $11 \times 93 =$ _____
7. $98 \times 11 =$ _____
8. $91 \times 11 =$ _____
9. $96 \times 11 =$ _____
10. $38 \times 11 =$ _____
11. $27 \times 11 =$ _____
12. $36 \times 11 =$ _____
13. $19 \times 11 =$ _____
14. $14 \times 11 =$ _____
15. $11 \times 67 =$ _____
16. $11 \times 82 =$ _____
17. $11 \times 36 =$ _____
18. $11 \times 34 =$ _____
19. $11 \times 56 =$ _____
20. $47 \times 11 =$ _____
21. $99 \times 11 =$ _____
22. $33 \times 11 =$ _____
23. $11 \times 21 =$ _____
24. $52 \times 11 =$ _____
25. $11 \times 42 =$ _____
26. $16 \times 11 =$ _____
27. $69 \times 11 =$ _____
28. $41 \times 11 =$ _____
29. $23 \times 11 =$ _____
30. $43 \times 11 =$ _____
31. $586 \times 11 =$ _____
32. $274 \times 11 =$ _____
33. $774 \times 11 =$ _____
34. $396 \times 11 =$ _____
35. $383 \times 11 =$ _____
36. $11 \times 937 =$ _____
37. $944 \times 11 =$ _____
38. $882 \times 11 =$ _____
39. $11 \times 718 =$ _____
40. $872 \times 11 =$ _____
41. $142 \times 11 =$ _____
42. $169 \times 11 =$ _____
43. $11 \times 183 =$ _____
44. $564 \times 11 =$ _____
45. $377 \times 11 =$ _____
46. $11 \times 402 =$ _____
47. $11 \times 957 =$ _____
48. $215 \times 11 =$ _____
49. $668 \times 11 =$ _____
50. $955 \times 11 =$ _____

8 Multiplication by 25

1. $69 \times 25 =$ _____
2. $25 \times 32 =$ _____
3. $59 \times 25 =$ _____
4. $25 \times 18 =$ _____
5. $91 \times 25 =$ _____
6. $24 \times 25 =$ _____
7. $97 \times 25 =$ _____
8. $25 \times 46 =$ _____
9. $25 \times 52 =$ _____
10. $49 \times 25 =$ _____
11. $25 \times 74 =$ _____
12. $25 \times 25 =$ _____
13. $15 \times 25 =$ _____
14. $64 \times 25 =$ _____
15. $81 \times 25 =$ _____
16. $75 \times 25 =$ _____
17. $25 \times 89 =$ _____
18. $25 \times 46 =$ _____
19. $25 \times 67 =$ _____
20. $25 \times 13 =$ _____
21. $25 \times 87 =$ _____
22. $43 \times 25 =$ _____
23. $53 \times 25 =$ _____
24. $55 \times 25 =$ _____
25. $25 \times 18 =$ _____
26. $25 \times 26 =$ _____
27. $55 \times 25 =$ _____
28. $77 \times 25 =$ _____
29. $25 \times 59 =$ _____
30. $25 \times 85 =$ _____
31. $315 \times 25 =$ _____
32. $526 \times 25 =$ _____
33. $816 \times 25 =$ _____
34. $142 \times 25 =$ _____
35. $359 \times 25 =$ _____
36. $171 \times 25 =$ _____
37. $25 \times 335 =$ _____
38. $253 \times 25 =$ _____
39. $25 \times 652 =$ _____
40. $825 \times 25 =$ _____
41. $25 \times 312 =$ _____
42. $25 \times 985 =$ _____
43. $778 \times 25 =$ _____
44. $849 \times 25 =$ _____
45. $512 \times 25 =$ _____
46. $25 \times 248 =$ _____
47. $25 \times 246 =$ _____
48. $25 \times 907 =$ _____
49. $297 \times 25 =$ _____
50. $767 \times 25 =$ _____

9 Multiplication by 50

1. $76 \times 50 =$ _____
2. $42 \times 50 =$ _____
3. $50 \times 62 =$ _____
4. $58 \times 50 =$ _____
5. $15 \times 50 =$ _____
6. $50 \times 16 =$ _____
7. $67 \times 50 =$ _____
8. $50 \times 47 =$ _____
9. $50 \times 95 =$ _____
10. $45 \times 50 =$ _____
11. $71 \times 50 =$ _____
12. $50 \times 97 =$ _____
13. $77 \times 50 =$ _____
14. $27 \times 50 =$ _____
15. $58 \times 50 =$ _____
16. $82 \times 50 =$ _____
17. $50 \times 58 =$ _____
18. $15 \times 50 =$ _____
19. $89 \times 50 =$ _____
20. $63 \times 50 =$ _____
21. $50 \times 72 =$ _____
22. $95 \times 50 =$ _____
23. $79 \times 50 =$ _____
24. $16 \times 50 =$ _____
25. $50 \times 57 =$ _____
26. $33 \times 50 =$ _____
27. $50 \times 87 =$ _____
28. $50 \times 72 =$ _____
29. $50 \times 29 =$ _____
30. $85 \times 50 =$ _____
31. $50 \times 561 =$ _____
32. $705 \times 50 =$ _____
33. $50 \times 132 =$ _____
34. $392 \times 50 =$ _____
35. $408 \times 50 =$ _____
36. $906 \times 50 =$ _____
37. $598 \times 50 =$ _____
38. $412 \times 50 =$ _____
39. $847 \times 50 =$ _____
40. $779 \times 50 =$ _____
41. $50 \times 421 =$ _____
42. $50 \times 328 =$ _____
43. $376 \times 50 =$ _____
44. $942 \times 50 =$ _____
45. $50 \times 895 =$ _____
46. $818 \times 50 =$ _____
47. $50 \times 532 =$ _____
48. $891 \times 50 =$ _____
49. $564 \times 50 =$ _____
50. $50 \times 741 =$ _____

10 Roman Numerals

1. LXVI = _____ (Arabic numerals)
2. XIX = _____ (Arabic numerals)
3. LXVII = _____ (Arabic numerals)
4. XXXVII = _____ (Arabic numerals)
5. XXIV = _____ (Arabic numerals)
6. LX = _____ (Arabic numerals)
7. LXXXIV = _____ (Arabic numerals)
8. LVI = _____ (Arabic numerals)
9. LXXXIX = _____ (Arabic numerals)
10. XCVI = _____ (Arabic numerals)
11. LXXXII = _____ (Arabic numerals)
12. XXX = _____ (Arabic numerals)
13. XLVIII = _____ (Arabic numerals)
14. XX = _____ (Arabic numerals)
15. XL = _____ (Arabic numerals)
16. XXVI = _____ (Arabic numerals)
17. LXXXVIII = _____ (Arabic numerals)
18. XLIX = _____ (Arabic numerals)
19. LXXXII = _____ (Arabic numerals)
20. LXI = _____ (Arabic numerals)
21. LVII = _____ (Arabic numerals)
22. XCVII = _____ (Arabic numerals)
23. XLVII = _____ (Arabic numerals)
24. XVIII = _____ (Arabic numerals)
25. LXXVI = _____ (Arabic numerals)
26. XIV = _____ (Arabic numerals)
27. LXVIII = _____ (Arabic numerals)
28. XLVIII = _____ (Arabic numerals)
29. LXV = _____ (Arabic numerals)
30. LXXXVI = _____ (Arabic numerals)
31. CDX = _____ (Arabic numerals)
32. MLVI = _____ (Arabic numerals)
33. MMCCXXXVIII = _____ (Arabic numerals)
34. MMDCLXXXIV = _____ (Arabic numerals)
35. MLIII = _____ (Arabic numerals)
36. DCCCXXI = _____ (Arabic numerals)
37. MMCCCLXVIII = _____ (Arabic numerals)
38. MDLII = _____ (Arabic numerals)
39. MCMXCVII = _____ (Arabic numerals)
40. MCMXIII = _____ (Arabic numerals)
41. CCXCVII = _____ (Arabic numerals)
42. DCCCXLV = _____ (Arabic numerals)
43. MMDCCCVIII = _____ (Arabic numerals)
44. MDCCLXXXVII = _____ (Arabic numerals)
45. MMCMXXXIV = _____ (Arabic numerals)
46. MLXV = _____ (Arabic numerals)
47. DCLXIV = _____ (Arabic numerals)
48. MMDXXVI = _____ (Arabic numerals)
49. CXCIX = _____ (Arabic numerals)
50. MCC = _____ (Arabic numerals)

11 Roman Numerals with Operations

1. $CXXXII \div XI =$ _____ (Arabic numerals)
2. $VIII \times XVI =$ _____ (Arabic numerals)
3. $XXXIII + XXX =$ _____ (Arabic numerals)
4. $XIII \times IX =$ _____ (Arabic numerals)
5. $XX + XXXV =$ _____ (Arabic numerals)
6. $XV + XL =$ _____ (Arabic numerals)
7. $LV - XXIX =$ _____ (Arabic numerals)
8. $XV + XXXVIII =$ _____ (Arabic numerals)
9. $LXII - XLIX =$ _____ (Arabic numerals)
10. $XV \times IX =$ _____ (Arabic numerals)
11. $XXXV + XIV =$ _____ (Arabic numerals)
12. $XVI \times VIII =$ _____ (Arabic numerals)
13. $LXVI \div VI =$ _____ (Arabic numerals)
14. $XVI \times V =$ _____ (Arabic numerals)
15. $XIX \times IV =$ _____ (Arabic numerals)
16. $V \times V =$ _____ (Arabic numerals)
17. $LVI - XXXIII =$ _____ (Arabic numerals)
18. $LXXXVI \div XIX =$ _____ (Arabic numerals)
19. $XII \times VII =$ _____ (Arabic numerals)
20. $VII \times XII =$ _____ (Arabic numerals)
21. $XIX \times V =$ _____ (Arabic numerals)
22. $XLIX + XI =$ _____ (Arabic numerals)
23. $XXI + XI =$ _____ (Arabic numerals)
24. $VI \times VII =$ _____ (Arabic numerals)
25. $XVI \times VII =$ _____ (Arabic numerals)
26. $VII \times XIII =$ _____ (Arabic numerals)
27. $LXIV \div VIII =$ _____ (Arabic numerals)
28. $XV \times VII =$ _____ (Arabic numerals)
29. $XXXIV + XXXVIII =$ _____ (Arabic numerals)
30. $LXXVII \div XI =$ _____ (Arabic numerals)
31. $L + XXV =$ _____ (Arabic numerals)
32. $XXI + XXII =$ _____ (Arabic numerals)
33. $LXXII \div VIII =$ _____ (Arabic numerals)
34. $IV \times XVIII =$ _____ (Arabic numerals)
35. $LXII - XXVIII =$ _____ (Arabic numerals)
36. $LX \div XII =$ _____ (Arabic numerals)
37. $X \times VIII =$ _____ (Arabic numerals)
38. $XII \times XII =$ _____ (Arabic numerals)
39. $XXXIX + XXXVII =$ _____ (Arabic numerals)
40. $LXXII - XXVI =$ _____ (Arabic numerals)
41. $LIII - XVII =$ _____ (Arabic numerals)
42. $XI \times VIII =$ _____ (Arabic numerals)
43. $CXXXV \div XV =$ _____ (Arabic numerals)
44. $LX \div X =$ _____ (Arabic numerals)
45. $XIV + XXV =$ _____ (Arabic numerals)
46. $XXVII + XXXIII =$ _____ (Arabic numerals)
47. $XIX + XXXIX =$ _____ (Arabic numerals)
48. $LXVI - XLII =$ _____ (Arabic numerals)
49. $CXII \div VII =$ _____ (Arabic numerals)
50. $XCV \div XIX =$ _____ (Arabic numerals)

12 Place Values

1. What digit is in the hundreds place of 7696? _____
2. What digit is in the hundreds place of 4399? _____
3. What digit is in the tens place of 5519? _____
4. What digit is in the tenths place of 55.69? _____
5. What digit is in the ten-thousandths place of 295983.472789? _____
6. What digit is in the tens place of 538? _____
7. What digit is in the units place of 46913? _____
8. What digit is in the hundreds place of 8481? _____
9. What digit is in the hundreds place of 1916? _____
10. What digit is in the tenths place of 50.67? _____
11. What digit is in the units place of 305? _____
12. What digit is in the thousandths place of 516496.335992? _____
13. What digit is in the units place of 1? _____
14. What digit is in the tenths place of 4187.2678? _____
15. What digit is in the ten-thousandths place of 4112380.7513739? _____
16. What digit is in the tens place of 2805? _____
17. What digit is in the hundreds place of 32717? _____
18. What digit is in the thousands place of 290525? _____
19. What digit is in the units place of 107? _____
20. What digit is in the thousandths place of 740887.953187? _____

13 Rounding Numbers

1. Round 43661.7 to the nearest units place. _____
2. Round 634664 to the nearest thousands. _____
3. Round 8481.94 to the nearest tenths place. _____
4. Round 911383 to the nearest ten thousands. _____
5. Round 8915.62 to the nearest tenths place. _____
6. Round 0.39805 to the nearest thousandths place. _____
7. Round 25.558 to the nearest hundredths place. _____
8. Round 94589.9 to the nearest units place. _____
9. Round 829048 to the nearest hundreds. _____
10. Round 211.675 to the nearest hundredths place. _____
11. Round 8458 to the nearest tens. _____
12. Round 0.449805 to the nearest ten-thousandths place. _____
13. Round 918.484 to the nearest tenths place. _____
14. Round 9955 to the nearest hundreds. _____
15. Round 93801 to the nearest tens. _____
16. Round 24.5409 to the nearest tenths place. _____
17. Round 41372 to the nearest tens. _____
18. Round 5403.7 to the nearest units place. _____
19. Round 6.36563 to the nearest hundredths place. _____
20. Round 618.422 to the nearest tenths place. _____

14 Expanded Notation

1. $(4 \times 1000) + (7 \times 100) + (3 \times 10) + (9 \times 1) = \underline{\hspace{2cm}}$.
2. $(7 \times 10^2) + (6 \times 10^1) + (1 \times 10^0) = \underline{\hspace{2cm}}$.
3. $(7 \times 1) + (5 \times 10) + (4 \times 100) = \underline{\hspace{2cm}}$.
4. $(4 \times 100) + (2 \times 10) = \underline{\hspace{2cm}}$.
5. $(6 \times 100) + (1 \times 1) = \underline{\hspace{2cm}}$.
6. $(1 \times 10^2) + (7 \times 10^1) + (8 \times 10^0) = \underline{\hspace{2cm}}$.
7. $(2 \times 1) + (3 \times 10) + (7 \times 100) = \underline{\hspace{2cm}}$.
8. $(7 \times 1) + (1 \times 10) + (1 \times 100) = \underline{\hspace{2cm}}$.
9. $(1 \times 10^2) + (5 \times 10^1) + (8 \times 10^0) = \underline{\hspace{2cm}}$.
10. $(6 \times 100) + (2 \times 10) = \underline{\hspace{2cm}}$.
11. $(9 \times 10^{-1}) + (7 \times 10^{-2}) + (3 \times 10^{-3}) = \underline{\hspace{2cm}}$.
12. $(4 \times 100) + (1 \times 1) = \underline{\hspace{2cm}}$.
13. $(3 \times 1000) + (7 \times 100) + (4 \times 10) = \underline{\hspace{2cm}}$.
14. $(5 \times 1000) + (6 \times 100) + (9 \times 1) = \underline{\hspace{2cm}}$.
15. $(3 \times 100) + (5 \times 10) + (5 \times 1) = \underline{\hspace{2cm}}$.
16. $(4 \times 10) + (9 \times 1000) + (4 \times 100) + (3 \times 1) = \underline{\hspace{2cm}}$.
17. $(3 \times 100) + (6 \times 10) + (6 \times 1) = \underline{\hspace{2cm}}$.
18. $(5 \times 100) + (8 \times 1) + (7 \times 1000) + (7 \times 10) = \underline{\hspace{2cm}}$.
19. $(3 \times 1000) + (8 \times 100) + (3 \times 1) = \underline{\hspace{2cm}}$.
20. $(3 \times 1000) + (2 \times 100) + (3 \times 10) = \underline{\hspace{2cm}}$.
21. $(6 \times 1000) + (4 \times 10) + (3 \times 1) = \underline{\hspace{2cm}}$.
22. $(1 \times 1000) + (6 \times 100) + (6 \times 10) + (3 \times 1) = \underline{\hspace{2cm}}$.
23. $(6 \times 1000) + (8 \times 10) + (4 \times 1) = \underline{\hspace{2cm}}$.
24. $(3 \times 10) + (9 \times 1000) + (5 \times 100) + (7 \times 1) = \underline{\hspace{2cm}}$.
25. $(9 \times 1000) + (9 \times 100) + (8 \times 10) = \underline{\hspace{2cm}}$.
26. $(5 \times 1000) + (6 \times 100) + (8 \times 10) = \underline{\hspace{2cm}}$.
27. $(4 \times 10) + (2 \times 100) + (6 \times 1) = \underline{\hspace{2cm}}$.
28. $(1 \times 100) + (5 \times 1) + (2 \times 1000) + (8 \times 10) = \underline{\hspace{2cm}}$.
29. $(8 \times 10) + (7 \times 100) + (6 \times 1) = \underline{\hspace{2cm}}$.
30. $(2 \times 100) + (2 \times 1) = \underline{\hspace{2cm}}$.
31. $(8 \times 1000) + (2 \times 10) + (3 \times 1) = \underline{\hspace{2cm}}$.
32. $(4 \times 1000) + (8 \times 100) + (7 \times 10) = \underline{\hspace{2cm}}$.
33. $(5 \times 100) + (8 \times 1) = \underline{\hspace{2cm}}$.
34. $(7 \times 1000) + (3 \times 100) + (7 \times 10) + (5 \times 1) = \underline{\hspace{2cm}}$.
35. $(4 \times 10^{-1}) + (3 \times 10^{-2}) + (5 \times 10^{-3}) = \underline{\hspace{2cm}}$.
36. $(4 \times 10) + (4 \times 1000) + (3 \times 100) + (9 \times 1) = \underline{\hspace{2cm}}$.
37. $(6 \times 1000) + (4 \times 100) + (3 \times 1) = \underline{\hspace{2cm}}$.
38. $(7 \times 10^{-1}) + (6 \times 10^{-2}) + (5 \times 10^{-3}) = \underline{\hspace{2cm}}$.
39. $(1 \times 1000) + (3 \times 10) + (1 \times 1) = \underline{\hspace{2cm}}$.
40. $(9 \times 1000) + (2 \times 100) + (2 \times 1) = \underline{\hspace{2cm}}$.
41. $(7 \times 1000) + (1 \times 100) + (6 \times 10) = \underline{\hspace{2cm}}$.
42. $(9 \times 10^2) + (8 \times 10^1) + (4 \times 10^0) = \underline{\hspace{2cm}}$.
43. $(7 \times 1000) + (3 \times 10) + (4 \times 1) = \underline{\hspace{2cm}}$.
44. $(7 \times 1000) + (1 \times 100) + (1 \times 10) + (4 \times 1) = \underline{\hspace{2cm}}$.
45. $(4 \times 100) + (8 \times 1) = \underline{\hspace{2cm}}$.
46. $(7 \times 1000) + (7 \times 100) + (3 \times 1) = \underline{\hspace{2cm}}$.
47. $(6 \times 10) + (8 \times 1000) + (2 \times 100) + (1 \times 1) = \underline{\hspace{2cm}}$.
48. $(5 \times 1000) + (3 \times 100) + (5 \times 10) = \underline{\hspace{2cm}}$.
49. $(9 \times 10^{-1}) + (7 \times 10^{-2}) + (7 \times 10^{-3}) = \underline{\hspace{2cm}}$.
50. $(9 \times 100) + (7 \times 1) + (1 \times 1000) + (2 \times 10) = \underline{\hspace{2cm}}$.

15 Multiplication by 12

1. $35 \times 12 =$ _____ .
2. $92 \times 12 =$ _____ .
3. $12 \times 73 =$ _____ .
4. $12 \times 16 =$ _____ .
5. $65 \times 12 =$ _____ .
6. $24 \times 12 =$ _____ .
7. $99 \times 12 =$ _____ .
8. $12 \times 52 =$ _____ .
9. $33 \times 12 =$ _____ .
10. $91 \times 12 =$ _____ .
11. $87 \times 12 =$ _____ .
12. $12 \times 32 =$ _____ .
13. $25 \times 12 =$ _____ .
14. $27 \times 12 =$ _____ .
15. $95 \times 12 =$ _____ .
16. $12 \times 87 =$ _____ .
17. $79 \times 12 =$ _____ .
18. $12 \times 82 =$ _____ .
19. $62 \times 12 =$ _____ .
20. $41 \times 12 =$ _____ .
21. $12 \times 73 =$ _____ .
22. $12 \times 81 =$ _____ .
23. $98 \times 12 =$ _____ .
24. $12 \times 34 =$ _____ .
25. $49 \times 12 =$ _____ .
26. $74 \times 12 =$ _____ .
27. $88 \times 12 =$ _____ .
28. $12 \times 57 =$ _____ .
29. $12 \times 23 =$ _____ .
30. $12 \times 93 =$ _____ .
31. $12 \times 331 =$ _____ .
32. $598 \times 12 =$ _____ .
33. $117 \times 12 =$ _____ .
34. $973 \times 12 =$ _____ .
35. $12 \times 572 =$ _____ .
36. $634 \times 12 =$ _____ .
37. $12 \times 578 =$ _____ .
38. $233 \times 12 =$ _____ .
39. $463 \times 12 =$ _____ .
40. $12 \times 277 =$ _____ .
41. $12 \times 203 =$ _____ .
42. $784 \times 12 =$ _____ .
43. $725 \times 12 =$ _____ .
44. $677 \times 12 =$ _____ .
45. $403 \times 12 =$ _____ .
46. $12 \times 256 =$ _____ .
47. $12 \times 693 =$ _____ .
48. $904 \times 12 =$ _____ .
49. $226 \times 12 =$ _____ .
50. $12 \times 434 =$ _____ .

16 Remainders (division by 2)

1. $673 \div 2$ has a remainder of _____.
2. $849 \div 2$ has a remainder of _____.
3. $78 \div 2$ has a remainder of _____.
4. The remainder when 565 is divided by 2 is _____.
5. The remainder when 274 is divided by 2 is _____.
6. $916 \div 2$ has a remainder of _____.
7. $198 \div 2$ has a remainder of _____.
8. $146 \div 2$ has a remainder of _____.
9. The remainder when 689 is divided by 2 is _____.
10. $527 \div 2$ has a remainder of _____.
11. $698 \div 2$ has a remainder of _____.
12. $401 \div 2$ has a remainder of _____.
13. The remainder when 903 is divided by 2 is _____.
14. The remainder when 396 is divided by 2 is _____.
15. $6565 \div 2$ has a remainder of _____.
16. The remainder when 433 is divided by 2 is _____.
17. The remainder when 624 is divided by 2 is _____.
18. The remainder when 318 is divided by 2 is _____.
19. The remainder when 486 is divided by 2 is _____.
20. The remainder when 248 is divided by 2 is _____.

17 Remainders (division by 3)

1. $136 \div 3$ has a remainder of _____.
2. $5244 \div 3$ has a remainder of _____.
3. The remainder when 8246 is divided by 3 is _____.
4. $613 \div 3$ has a remainder of _____.
5. The remainder when 192 is divided by 3 is _____.
6. $926 \div 3$ has a remainder of _____.
7. $3392 \div 3$ has a remainder of _____.
8. $942 \div 3$ has a remainder of _____.
9. The remainder when 352 is divided by 3 is _____.
10. The remainder when 7717 is divided by 3 is _____.
11. $334 \div 3$ has a remainder of _____.
12. The remainder when 394 is divided by 3 is _____.
13. $147 \div 3$ has a remainder of _____.
14. $849 \div 3$ has a remainder of _____.
15. The remainder when 551 is divided by 3 is _____.
16. $491 \div 3$ has a remainder of _____.
17. The remainder when 388 is divided by 3 is _____.
18. $8128 \div 3$ has a remainder of _____.
19. $199 \div 3$ has a remainder of _____.
20. $3544 \div 3$ has a remainder of _____.

18 Remainders (division by 4)

1. The remainder when 3656 is divided by 4 is _____.
2. The remainder when 1790 is divided by 4 is _____.
3. The remainder when 334 is divided by 4 is _____.
4. The remainder when 1982 is divided by 4 is _____.
5. $1986 \div 4$ has a remainder of _____.
6. The remainder when 872 is divided by 4 is _____.
7. $886 \div 4$ has a remainder of _____.
8. $101 \div 4$ has a remainder of _____.
9. The remainder when 661 is divided by 4 is _____.
10. The remainder when 102 is divided by 4 is _____.
11. The remainder when 317 is divided by 4 is _____.
12. $349 \div 4$ has a remainder of _____.
13. The remainder when 725 is divided by 4 is _____.
14. The remainder when 806 is divided by 4 is _____.
15. The remainder when 963 is divided by 4 is _____.
16. $614 \div 4$ has a remainder of _____.
17. $108 \div 4$ has a remainder of _____.
18. The remainder when 6592 is divided by 4 is _____.
19. The remainder when 7999 is divided by 4 is _____.
20. $507 \div 4$ has a remainder of _____.

19 Remainders (division by 5)

1. $145 \div 5$ has a remainder of _____.
2. $4459 \div 5$ has a remainder of _____.
3. The remainder when 62 is divided by 5 is _____.
4. $701 \div 5$ has a remainder of _____.
5. The remainder when 110 is divided by 5 is _____.
6. The remainder when 418 is divided by 5 is _____.
7. $573 \div 5$ has a remainder of _____.
8. $996 \div 5$ has a remainder of _____.
9. $545 \div 5$ has a remainder of _____.
10. The remainder when 6834 is divided by 5 is _____.
11. $159 \div 5$ has a remainder of _____.
12. The remainder when 992 is divided by 5 is _____.
13. $2300 \div 5$ has a remainder of _____.
14. The remainder when 586 is divided by 5 is _____.
15. $477 \div 5$ has a remainder of _____.
16. $839 \div 5$ has a remainder of _____.
17. The remainder when 3165 is divided by 5 is _____.
18. The remainder when 321 is divided by 5 is _____.
19. The remainder when 253 is divided by 5 is _____.
20. $2237 \div 5$ has a remainder of _____.

20 Remainders (division by 8)

1. $378 \div 8$ has a remainder of _____.
2. $909 \div 8$ has a remainder of _____.
3. The remainder when 847 is divided by 8 is _____.
4. The remainder when 639 is divided by 8 is _____.
5. The remainder when 990 is divided by 8 is _____.
6. $919 \div 8$ has a remainder of _____.
7. The remainder when 904 is divided by 8 is _____.
8. The remainder when 316 is divided by 8 is _____.
9. $860 \div 8$ has a remainder of _____.
10. $181 \div 8$ has a remainder of _____.
11. $748 \div 8$ has a remainder of _____.
12. The remainder when 148 is divided by 8 is _____.
13. The remainder when 269 is divided by 8 is _____.
14. The remainder when 188 is divided by 8 is _____.
15. $473 \div 8$ has a remainder of _____.
16. The remainder when 100 is divided by 8 is _____.
17. $344 \div 8$ has a remainder of _____.
18. $348 \div 8$ has a remainder of _____.
19. $403 \div 8$ has a remainder of _____.
20. The remainder when 445 is divided by 8 is _____.

21 Remainders (division by 9)

1. $850 \div 9$ has a remainder of _____.
2. The remainder when 298 is divided by 9 is _____.
3. $709 \div 9$ has a remainder of _____.
4. $205 \div 9$ has a remainder of _____.
5. $711 \div 9$ has a remainder of _____.
6. The remainder when 548 is divided by 9 is _____.
7. The remainder when 669 is divided by 9 is _____.
8. $260 \div 9$ has a remainder of _____.
9. $823 \div 9$ has a remainder of _____.
10. $153 \div 9$ has a remainder of _____.
11. $776 \div 9$ has a remainder of _____.
12. $2527 \div 9$ has a remainder of _____.
13. The remainder when 8877 is divided by 9 is _____.
14. The remainder when 823 is divided by 9 is _____.
15. The remainder when 521 is divided by 9 is _____.
16. $135 \div 9$ has a remainder of _____.
17. $1422 \div 9$ has a remainder of _____.
18. The remainder when 553 is divided by 9 is _____.
19. The remainder when 652 is divided by 9 is _____.
20. The remainder when 1869 is divided by 9 is _____.

22 Remainders (division by 11)

1. The remainder when 371 is divided by 11 is _____.
2. $892 \div 11$ has a remainder of _____.
3. $2132 \div 11$ has a remainder of _____.
4. $174 \div 11$ has a remainder of _____.
5. The remainder when 541 is divided by 11 is _____.
6. The remainder when 335 is divided by 11 is _____.
7. The remainder when 261 is divided by 11 is _____.
8. The remainder when 669 is divided by 11 is _____.
9. $6912 \div 11$ has a remainder of _____.
10. The remainder when 794 is divided by 11 is _____.
11. $435 \div 11$ has a remainder of _____.
12. The remainder when 218 is divided by 11 is _____.
13. $240 \div 11$ has a remainder of _____.
14. $642 \div 11$ has a remainder of _____.
15. The remainder when 6944 is divided by 11 is _____.
16. The remainder when 555 is divided by 11 is _____.
17. The remainder when 885 is divided by 11 is _____.
18. The remainder when 458 is divided by 11 is _____.
19. The remainder when 1206 is divided by 11 is _____.
20. The remainder when 795 is divided by 11 is _____.

23 Remainders in general

1. The remainder when 794 is divided by 10 is _____.
2. The remainder when 278 is divided by 9 is _____.
3. The remainder when 907 is divided by 8 is _____.
4. $765 \div 9$ has a remainder of _____.
5. $118 \div 10$ has a remainder of _____.
6. The remainder when 532 is divided by 7 is _____.
7. $7680 \div 4$ has a remainder of _____.
8. The remainder when 53 is divided by 7 is _____.
9. $533 \div 3$ has a remainder of _____.
10. The remainder when 794 is divided by 11 is _____.
11. The remainder when 627 is divided by 3 is _____.
12. $940 \div 8$ has a remainder of _____.
13. $867 \div 4$ has a remainder of _____.
14. The remainder when 934 is divided by 7 is _____.
15. $317 \div 5$ has a remainder of _____.
16. $194 \div 9$ has a remainder of _____.
17. The remainder when 3128 is divided by 6 is _____.
18. $571 \div 9$ has a remainder of _____.
19. $263 \div 4$ has a remainder of _____.
20. $149 \div 7$ has a remainder of _____.

24 Division with multiples

1. $4455 \div 11 =$ _____ .
2. $618 \div 6 =$ _____ .
3. $4518 \div 9 =$ _____ .
4. $808 \div 8 =$ _____ .
5. $2665 \div 13 =$ _____ .
6. $1806 \div 3 =$ _____ .
7. $1326 \div 13 =$ _____ .
8. $3232 \div 8 =$ _____ .
9. $432 \div 4 =$ _____ .
10. $7733 \div 11 =$ _____ .

25 Adding Numbers in Sequence

1. $24 + 32 + 40 =$ _____ .
2. $14 + 15 + 16 + 17 + 18 =$ _____ .
3. $5 + 13 + 21 + 29 + 37 + 45 =$ _____ .
4. $21 + 24 + 27 + 30 + 33 + 36 + 39 =$ _____ .
5. $12 + 19 + 26 + 33 + 40 + 47 =$ _____ .
6. $14 + 18 + 22 + 26 + 30 =$ _____ .
7. $15 + 18 + 21 + 24 + 27 + 30 =$ _____ .
8. $4 + 10 + 16 + 22 + 28 =$ _____ .
9. $8 + 17 + 26 =$ _____ .
10. $7 + 10 + 13 =$ _____ .
11. $24 + 28 + 32 + 36 =$ _____ .
12. $9 + 18 + 27 + 36 + 45 + 54 + 63 =$ _____ .
13. $25 + 31 + 37 + 43 + 49 =$ _____ .
14. $11 + 17 + 23 + 29 =$ _____ .
15. $3 + 11 + 19 + 27 =$ _____ .
16. $18 + 19 + 20 =$ _____ .
17. $16 + 18 + 20 =$ _____ .
18. $2 + 9 + 16 + 23 =$ _____ .
19. $19 + 22 + 25 + 28 + 31 =$ _____ .
20. $16 + 17 + 18 + 19 + 20 + 21 =$ _____ .
21. $7 + 9 + 11 + 13 + \dots + 25 =$ _____ .
22. $19 + 25 + 31 + 37 + \dots + 133 =$ _____ .
23. $23 + 24 + 25 + 26 + \dots + 32 =$ _____ .
24. $20 + 35 + 50 + 65 + \dots + 155 =$ _____ .
25. $16 + 19 + 22 + 25 + \dots + 40 =$ _____ .
26. $9 + 18 + 27 + 36 + \dots + 81 =$ _____ .
27. $20 + 33 + 46 + 59 + \dots + 111 =$ _____ .
28. $2 + 4 + 6 + 8 + \dots + 40 =$ _____ .
29. $4 + 14 + 24 + 34 + \dots + 74 =$ _____ .
30. $12 + 17 + 22 + 27 + \dots + 47 =$ _____ .
31. $16 + 31 + 46 + 61 + \dots + 751 =$ _____ .
32. $22 + 27 + 32 + 37 + \dots + 167 =$ _____ .
33. $8 + 13 + 18 + 23 + \dots + 43 =$ _____ .
34. $18 + 26 + 34 + 42 + \dots + 66 =$ _____ .
35. $18 + 24 + 30 + 36 + \dots + 252 =$ _____ .
36. $19 + 31 + 43 + 55 + \dots + 151 =$ _____ .
37. $11 + 19 + 27 + 35 + \dots + 83 =$ _____ .
38. $19 + 29 + 39 + 49 + \dots + 89 =$ _____ .
39. $5 + 11 + 17 + 23 + \dots + 119 =$ _____ .
40. $19 + 25 + 31 + 37 + \dots + 55 =$ _____ .

26 Odd and Even Numbers

1. How many odd numbers are there between 18 and 26? _____
2. How many even numbers are there between 19 and 31? _____
3. How many odd numbers are there between 14 and 22? _____
4. How many odd numbers are there between 15 and 34? _____
5. How many even numbers are there between 10 and 44? _____
6. How many even numbers are there between 11 and 34? _____
7. How many odd numbers are there between 15 and 40? _____
8. How many odd numbers are there between 19 and 44? _____
9. How many odd numbers are there between 14 and 22? _____
10. How many even numbers are there between 20 and 44? _____

27 Squares (1-20)

- | | |
|----------------------|----------------------|
| 1. $8^2 =$ _____ . | 26. $20^2 =$ _____ . |
| 2. $10^2 =$ _____ . | 27. $17^2 =$ _____ . |
| 3. $13^2 =$ _____ . | 28. $16^2 =$ _____ . |
| 4. $15^2 =$ _____ . | 29. $8^2 =$ _____ . |
| 5. $18^2 =$ _____ . | 30. $3^2 =$ _____ . |
| 6. $3^2 =$ _____ . | 31. $2^2 =$ _____ . |
| 7. $5^2 =$ _____ . | 32. $16^2 =$ _____ . |
| 8. $1^2 =$ _____ . | 33. $5^2 =$ _____ . |
| 9. $16^2 =$ _____ . | 34. $9^2 =$ _____ . |
| 10. $11^2 =$ _____ . | 35. $19^2 =$ _____ . |
| 11. $4^2 =$ _____ . | 36. $14^2 =$ _____ . |
| 12. $20^2 =$ _____ . | 37. $10^2 =$ _____ . |
| 13. $19^2 =$ _____ . | 38. $4^2 =$ _____ . |
| 14. $4^2 =$ _____ . | 39. $17^2 =$ _____ . |
| 15. $6^2 =$ _____ . | 40. $9^2 =$ _____ . |
| 16. $19^2 =$ _____ . | 41. $13^2 =$ _____ . |
| 17. $2^2 =$ _____ . | 42. $2^2 =$ _____ . |
| 18. $11^2 =$ _____ . | 43. $7^2 =$ _____ . |
| 19. $12^2 =$ _____ . | 44. $11^2 =$ _____ . |
| 20. $9^2 =$ _____ . | 45. $16^2 =$ _____ . |
| 21. $1^2 =$ _____ . | 46. $18^2 =$ _____ . |
| 22. $7^2 =$ _____ . | 47. $4^2 =$ _____ . |
| 23. $10^2 =$ _____ . | 48. $19^2 =$ _____ . |
| 24. $13^2 =$ _____ . | 49. $17^2 =$ _____ . |
| 25. $4^2 =$ _____ . | 50. $18^2 =$ _____ . |

28 Square Roots (1-20)

- | | |
|----------------------------|----------------------------|
| 1. $\sqrt{361} =$ _____ . | 26. $\sqrt{196} =$ _____ . |
| 2. $\sqrt{324} =$ _____ . | 27. $\sqrt{225} =$ _____ . |
| 3. $\sqrt{4} =$ _____ . | 28. $\sqrt{9} =$ _____ . |
| 4. $\sqrt{225} =$ _____ . | 29. $\sqrt{121} =$ _____ . |
| 5. $\sqrt{36} =$ _____ . | 30. $\sqrt{25} =$ _____ . |
| 6. $\sqrt{64} =$ _____ . | 31. $\sqrt{400} =$ _____ . |
| 7. $\sqrt{16} =$ _____ . | 32. $\sqrt{169} =$ _____ . |
| 8. $\sqrt{169} =$ _____ . | 33. $\sqrt{324} =$ _____ . |
| 9. $\sqrt{49} =$ _____ . | 34. $\sqrt{36} =$ _____ . |
| 10. $\sqrt{256} =$ _____ . | 35. $\sqrt{225} =$ _____ . |
| 11. $\sqrt{25} =$ _____ . | 36. $\sqrt{64} =$ _____ . |
| 12. $\sqrt{144} =$ _____ . | 37. $\sqrt{400} =$ _____ . |
| 13. $\sqrt{400} =$ _____ . | 38. $\sqrt{361} =$ _____ . |
| 14. $\sqrt{289} =$ _____ . | 39. $\sqrt{256} =$ _____ . |
| 15. $\sqrt{196} =$ _____ . | 40. $\sqrt{9} =$ _____ . |
| 16. $\sqrt{25} =$ _____ . | 41. $\sqrt{25} =$ _____ . |
| 17. $\sqrt{4} =$ _____ . | 42. $\sqrt{36} =$ _____ . |
| 18. $\sqrt{16} =$ _____ . | 43. $\sqrt{81} =$ _____ . |
| 19. $\sqrt{36} =$ _____ . | 44. $\sqrt{225} =$ _____ . |
| 20. $\sqrt{256} =$ _____ . | 45. $\sqrt{361} =$ _____ . |
| 21. $\sqrt{100} =$ _____ . | 46. $\sqrt{196} =$ _____ . |
| 22. $\sqrt{64} =$ _____ . | 47. $\sqrt{289} =$ _____ . |
| 23. $\sqrt{1} =$ _____ . | 48. $\sqrt{81} =$ _____ . |
| 24. $\sqrt{144} =$ _____ . | 49. $\sqrt{169} =$ _____ . |
| 25. $\sqrt{25} =$ _____ . | 50. $\sqrt{16} =$ _____ . |

29 Multiplication by 75

1. $30 \times 75 =$ _____ .
2. $24 \times 75 =$ _____ .
3. $68 \times 75 =$ _____ .
4. $75 \times 75 =$ _____ .
5. $48 \times 75 =$ _____ .
6. $16 \times 75 =$ _____ .
7. $82 \times 75 =$ _____ .
8. $18 \times 75 =$ _____ .
9. $75 \times 43 =$ _____ .
10. $73 \times 75 =$ _____ .
11. $49 \times 75 =$ _____ .
12. $75 \times 59 =$ _____ .
13. $75 \times 96 =$ _____ .
14. $75 \times 79 =$ _____ .
15. $75 \times 89 =$ _____ .
16. $75 \times 35 =$ _____ .
17. $75 \times 26 =$ _____ .
18. $71 \times 75 =$ _____ .
19. $48 \times 75 =$ _____ .
20. $75 \times 52 =$ _____ .
21. $75 \times 88 =$ _____ .
22. $25 \times 75 =$ _____ .
23. $75 \times 95 =$ _____ .
24. $75 \times 55 =$ _____ .
25. $19 \times 75 =$ _____ .
26. $75 \times 60 =$ _____ .
27. $75 \times 27 =$ _____ .
28. $17 \times 75 =$ _____ .
29. $40 \times 75 =$ _____ .
30. $36 \times 75 =$ _____ .
31. $75 \times 77 =$ _____ .
32. $75 \times 11 =$ _____ .
33. $56 \times 75 =$ _____ .
34. $75 \times 49 =$ _____ .
35. $24 \times 75 =$ _____ .
36. $27 \times 75 =$ _____ .
37. $75 \times 45 =$ _____ .
38. $70 \times 75 =$ _____ .
39. $73 \times 75 =$ _____ .
40. $75 \times 97 =$ _____ .
41. $8 \times 75 =$ _____ .
42. $75 \times 11 =$ _____ .
43. $75 \times 36 =$ _____ .
44. $75 \times 53 =$ _____ .
45. $98 \times 75 =$ _____ .
46. $75 \times 26 =$ _____ .
47. $75 \times 99 =$ _____ .
48. $75 \times 35 =$ _____ .
49. $57 \times 75 =$ _____ .
50. $87 \times 75 =$ _____ .

30 Multiplying Two Numbers with Ones Digits Sum of 10, Same Tens Digits

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

31 Multiplying Two Digits Numbers (LOIF)

- | | |
|------------------------------|------------------------------|
| 1. $26 \times 49 =$ _____ . | 26. $59 \times 32 =$ _____ . |
| 2. $64 \times 65 =$ _____ . | 27. $49 \times 95 =$ _____ . |
| 3. $86 \times 44 =$ _____ . | 28. $31 \times 45 =$ _____ . |
| 4. $65 \times 34 =$ _____ . | 29. $13 \times 69 =$ _____ . |
| 5. $41 \times 42 =$ _____ . | 30. $45 \times 21 =$ _____ . |
| 6. $28 \times 16 =$ _____ . | 31. $13 \times 28 =$ _____ . |
| 7. $94 \times 78 =$ _____ . | 32. $95 \times 14 =$ _____ . |
| 8. $81 \times 97 =$ _____ . | 33. $51 \times 35 =$ _____ . |
| 9. $57 \times 68 =$ _____ . | 34. $23 \times 96 =$ _____ . |
| 10. $32 \times 52 =$ _____ . | 35. $65 \times 47 =$ _____ . |
| 11. $73 \times 47 =$ _____ . | 36. $15 \times 56 =$ _____ . |
| 12. $92 \times 69 =$ _____ . | 37. $35 \times 43 =$ _____ . |
| 13. $78 \times 86 =$ _____ . | 38. $75 \times 57 =$ _____ . |
| 14. $81 \times 14 =$ _____ . | 39. $92 \times 38 =$ _____ . |
| 15. $86 \times 41 =$ _____ . | 40. $85 \times 81 =$ _____ . |
| 16. $87 \times 93 =$ _____ . | 41. $63 \times 41 =$ _____ . |
| 17. $77 \times 32 =$ _____ . | 42. $54 \times 24 =$ _____ . |
| 18. $98 \times 85 =$ _____ . | 43. $95 \times 78 =$ _____ . |
| 19. $93 \times 19 =$ _____ . | 44. $38 \times 28 =$ _____ . |
| 20. $97 \times 42 =$ _____ . | 45. $86 \times 69 =$ _____ . |
| 21. $64 \times 69 =$ _____ . | 46. $42 \times 88 =$ _____ . |
| 22. $38 \times 98 =$ _____ . | 47. $23 \times 54 =$ _____ . |
| 23. $71 \times 55 =$ _____ . | 48. $64 \times 17 =$ _____ . |
| 24. $47 \times 21 =$ _____ . | 49. $59 \times 88 =$ _____ . |
| 25. $94 \times 81 =$ _____ . | 50. $31 \times 56 =$ _____ . |

32 Multiplying Two Numbers with Both Numbers Close to and Greater Than 100

1. $107 \times 105 =$ _____ .
2. $105 \times 103 =$ _____ .
3. $109 \times 108 =$ _____ .
4. $102 \times 104 =$ _____ .
5. $108 \times 106 =$ _____ .
6. $107 \times 107 =$ _____ .
7. $107 \times 105 =$ _____ .
8. $108 \times 109 =$ _____ .
9. $102 \times 101 =$ _____ .
10. $102 \times 109 =$ _____ .
11. $105 \times 102 =$ _____ .
12. $102 \times 101 =$ _____ .
13. $104 \times 109 =$ _____ .
14. $104 \times 107 =$ _____ .
15. $105 \times 106 =$ _____ .
16. $105 \times 102 =$ _____ .
17. $102 \times 108 =$ _____ .
18. $106 \times 104 =$ _____ .
19. $102 \times 108 =$ _____ .
20. $109 \times 106 =$ _____ .
21. $107 \times 109 =$ _____ .
22. $101 \times 103 =$ _____ .
23. $103 \times 106 =$ _____ .
24. $105 \times 105 =$ _____ .
25. $101 \times 105 =$ _____ .
26. $104 \times 109 =$ _____ .
27. $101 \times 101 =$ _____ .
28. $106 \times 105 =$ _____ .
29. $105 \times 101 =$ _____ .
30. $109 \times 104 =$ _____ .
31. $106 \times 109 =$ _____ .
32. $109 \times 105 =$ _____ .
33. $107 \times 106 =$ _____ .
34. $102 \times 106 =$ _____ .
35. $107 \times 107 =$ _____ .
36. $109 \times 101 =$ _____ .
37. $108 \times 101 =$ _____ .
38. $105 \times 104 =$ _____ .
39. $102 \times 101 =$ _____ .
40. $104 \times 109 =$ _____ .
41. $106 \times 106 =$ _____ .
42. $104 \times 105 =$ _____ .
43. $102 \times 105 =$ _____ .
44. $109 \times 102 =$ _____ .
45. $105 \times 102 =$ _____ .
46. $106 \times 101 =$ _____ .
47. $106 \times 109 =$ _____ .
48. $109 \times 107 =$ _____ .
49. $104 \times 104 =$ _____ .
50. $106 \times 109 =$ _____ .

33 Multiplying Two Numbers with Both Numbers Close to and Less Than 100

1. $99 \times 94 =$ _____ .
2. $95 \times 95 =$ _____ .
3. $97 \times 95 =$ _____ .
4. $98 \times 98 =$ _____ .
5. $94 \times 97 =$ _____ .
6. $97 \times 99 =$ _____ .
7. $91 \times 95 =$ _____ .
8. $96 \times 91 =$ _____ .
9. $91 \times 98 =$ _____ .
10. $99 \times 96 =$ _____ .
11. $91 \times 97 =$ _____ .
12. $94 \times 99 =$ _____ .
13. $92 \times 95 =$ _____ .
14. $98 \times 98 =$ _____ .
15. $99 \times 97 =$ _____ .
16. $92 \times 94 =$ _____ .
17. $96 \times 96 =$ _____ .
18. $93 \times 92 =$ _____ .
19. $91 \times 91 =$ _____ .
20. $92 \times 94 =$ _____ .
21. $94 \times 97 =$ _____ .
22. $93 \times 93 =$ _____ .
23. $99 \times 91 =$ _____ .
24. $99 \times 95 =$ _____ .
25. $95 \times 93 =$ _____ .
26. $97 \times 98 =$ _____ .
27. $96 \times 99 =$ _____ .
28. $97 \times 97 =$ _____ .
29. $94 \times 97 =$ _____ .
30. $98 \times 94 =$ _____ .
31. $93 \times 94 =$ _____ .
32. $94 \times 96 =$ _____ .
33. $93 \times 96 =$ _____ .
34. $91 \times 96 =$ _____ .
35. $93 \times 99 =$ _____ .
36. $99 \times 98 =$ _____ .
37. $94 \times 93 =$ _____ .
38. $93 \times 94 =$ _____ .
39. $96 \times 97 =$ _____ .
40. $94 \times 91 =$ _____ .
41. $95 \times 95 =$ _____ .
42. $95 \times 91 =$ _____ .
43. $92 \times 91 =$ _____ .
44. $92 \times 97 =$ _____ .
45. $94 \times 96 =$ _____ .
46. $98 \times 93 =$ _____ .
47. $96 \times 97 =$ _____ .
48. $96 \times 98 =$ _____ .
49. $91 \times 91 =$ _____ .
50. $91 \times 95 =$ _____ .

34 Squares (21-30)

- | | |
|----------------------|----------------------|
| 1. $26^2 =$ _____ . | 13. $22^2 =$ _____ . |
| 2. $28^2 =$ _____ . | 14. $23^2 =$ _____ . |
| 3. $23^2 =$ _____ . | 15. $29^2 =$ _____ . |
| 4. $29^2 =$ _____ . | 16. $21^2 =$ _____ . |
| 5. $27^2 =$ _____ . | 17. $25^2 =$ _____ . |
| 6. $25^2 =$ _____ . | 18. $28^2 =$ _____ . |
| 7. $24^2 =$ _____ . | 19. $22^2 =$ _____ . |
| 8. $28^2 =$ _____ . | 20. $27^2 =$ _____ . |
| 9. $22^2 =$ _____ . | 21. $26^2 =$ _____ . |
| 10. $21^2 =$ _____ . | 22. $29^2 =$ _____ . |
| 11. $30^2 =$ _____ . | 23. $21^2 =$ _____ . |
| 12. $24^2 =$ _____ . | 24. $25^2 =$ _____ . |

35 Square Roots (21-30)

- | | |
|----------------------------|----------------------------|
| 1. $\sqrt{676} =$ _____ . | 13. $\sqrt{625} =$ _____ . |
| 2. $\sqrt{841} =$ _____ . | 14. $\sqrt{900} =$ _____ . |
| 3. $\sqrt{529} =$ _____ . | 15. $\sqrt{676} =$ _____ . |
| 4. $\sqrt{784} =$ _____ . | 16. $\sqrt{441} =$ _____ . |
| 5. $\sqrt{441} =$ _____ . | 17. $\sqrt{784} =$ _____ . |
| 6. $\sqrt{484} =$ _____ . | 18. $\sqrt{576} =$ _____ . |
| 7. $\sqrt{729} =$ _____ . | 19. $\sqrt{625} =$ _____ . |
| 8. $\sqrt{625} =$ _____ . | 20. $\sqrt{484} =$ _____ . |
| 9. $\sqrt{484} =$ _____ . | 21. $\sqrt{900} =$ _____ . |
| 10. $\sqrt{576} =$ _____ . | 22. $\sqrt{841} =$ _____ . |
| 11. $\sqrt{784} =$ _____ . | 23. $\sqrt{529} =$ _____ . |
| 12. $\sqrt{841} =$ _____ . | 24. $\sqrt{729} =$ _____ . |

36 Multiplying Two Numbers Centered Around a Third Number (x10)

- | | |
|------------------------------|------------------------------|
| 1. $56 \times 44 =$ _____ . | 26. $94 \times 86 =$ _____ . |
| 2. $67 \times 53 =$ _____ . | 27. $95 \times 85 =$ _____ . |
| 3. $54 \times 46 =$ _____ . | 28. $47 \times 33 =$ _____ . |
| 4. $25 \times 15 =$ _____ . | 29. $58 \times 42 =$ _____ . |
| 5. $88 \times 72 =$ _____ . | 30. $36 \times 24 =$ _____ . |
| 6. $53 \times 47 =$ _____ . | 31. $35 \times 25 =$ _____ . |
| 7. $73 \times 67 =$ _____ . | 32. $85 \times 75 =$ _____ . |
| 8. $23 \times 17 =$ _____ . | 33. $88 \times 72 =$ _____ . |
| 9. $96 \times 84 =$ _____ . | 34. $94 \times 86 =$ _____ . |
| 10. $45 \times 35 =$ _____ . | 35. $86 \times 74 =$ _____ . |
| 11. $97 \times 83 =$ _____ . | 36. $42 \times 38 =$ _____ . |
| 12. $69 \times 51 =$ _____ . | 37. $66 \times 54 =$ _____ . |
| 13. $36 \times 24 =$ _____ . | 38. $29 \times 11 =$ _____ . |
| 14. $33 \times 27 =$ _____ . | 39. $23 \times 17 =$ _____ . |
| 15. $89 \times 71 =$ _____ . | 40. $92 \times 88 =$ _____ . |
| 16. $31 \times 29 =$ _____ . | 41. $76 \times 64 =$ _____ . |
| 17. $89 \times 71 =$ _____ . | 42. $48 \times 32 =$ _____ . |
| 18. $87 \times 73 =$ _____ . | 43. $26 \times 34 =$ _____ . |
| 19. $97 \times 83 =$ _____ . | 44. $74 \times 66 =$ _____ . |
| 20. $82 \times 78 =$ _____ . | 45. $53 \times 47 =$ _____ . |
| 21. $86 \times 74 =$ _____ . | 46. $44 \times 36 =$ _____ . |
| 22. $26 \times 14 =$ _____ . | 47. $29 \times 11 =$ _____ . |
| 23. $48 \times 32 =$ _____ . | 48. $73 \times 67 =$ _____ . |
| 24. $49 \times 31 =$ _____ . | 49. $94 \times 86 =$ _____ . |
| 25. $85 \times 75 =$ _____ . | 50. $58 \times 42 =$ _____ . |

37 Multiplying Two Numbers Centered Around a Third Number (any)

- | | |
|------------------------------|------------------------------|
| 1. $26 \times 20 =$ _____ . | 13. $28 \times 24 =$ _____ . |
| 2. $30 \times 22 =$ _____ . | 14. $26 \times 20 =$ _____ . |
| 3. $30 \times 28 =$ _____ . | 15. $23 \times 21 =$ _____ . |
| 4. $27 \times 25 =$ _____ . | 16. $24 \times 20 =$ _____ . |
| 5. $29 \times 23 =$ _____ . | 17. $18 \times 12 =$ _____ . |
| 6. $30 \times 28 =$ _____ . | 18. $27 \times 23 =$ _____ . |
| 7. $28 \times 26 =$ _____ . | 19. $16 \times 12 =$ _____ . |
| 8. $25 \times 23 =$ _____ . | 20. $18 \times 12 =$ _____ . |
| 9. $17 \times 15 =$ _____ . | 21. $28 \times 24 =$ _____ . |
| 10. $26 \times 18 =$ _____ . | 22. $28 \times 20 =$ _____ . |
| 11. $20 \times 16 =$ _____ . | 23. $22 \times 18 =$ _____ . |
| 12. $21 \times 19 =$ _____ . | 24. $27 \times 25 =$ _____ . |

38 Difference of Two Squares

- | | |
|-----------------------------|-----------------------------|
| 1. $36^2 - 30^2 =$ _____ . | 13. $79^2 - 41^2 =$ _____ . |
| 2. $75^2 - 65^2 =$ _____ . | 14. $89^2 - 64^2 =$ _____ . |
| 3. $21^2 - 1^2 =$ _____ . | 15. $16^2 - 13^2 =$ _____ . |
| 4. $82^2 - 71^2 =$ _____ . | 16. $96^2 - 85^2 =$ _____ . |
| 5. $63^2 - 53^2 =$ _____ . | 17. $50^2 - 6^2 =$ _____ . |
| 6. $50^2 - 4^2 =$ _____ . | 18. $72^2 - 47^2 =$ _____ . |
| 7. $22^2 - 13^2 =$ _____ . | 19. $59^2 - 31^2 =$ _____ . |
| 8. $77^2 - 49^2 =$ _____ . | 20. $70^2 - 7^2 =$ _____ . |
| 9. $30^2 - 3^2 =$ _____ . | 21. $56^2 - 30^2 =$ _____ . |
| 10. $57^2 - 46^2 =$ _____ . | 22. $51^2 - 9^2 =$ _____ . |
| 11. $16^2 - 15^2 =$ _____ . | 23. $99^2 - 39^2 =$ _____ . |
| 12. $60^2 - 40^2 =$ _____ . | 24. $30^2 - 7^2 =$ _____ . |

39 Multiplying Two Numbers Ending in 5

- | | |
|------------------------------|------------------------------|
| 1. $65 \times 95 =$ _____ . | 13. $65 \times 85 =$ _____ . |
| 2. $35 \times 95 =$ _____ . | 14. $35 \times 55 =$ _____ . |
| 3. $25 \times 75 =$ _____ . | 15. $45 \times 15 =$ _____ . |
| 4. $85 \times 15 =$ _____ . | 16. $65 \times 15 =$ _____ . |
| 5. $85 \times 65 =$ _____ . | 17. $15 \times 75 =$ _____ . |
| 6. $75 \times 25 =$ _____ . | 18. $65 \times 85 =$ _____ . |
| 7. $45 \times 75 =$ _____ . | 19. $65 \times 15 =$ _____ . |
| 8. $65 \times 95 =$ _____ . | 20. $15 \times 25 =$ _____ . |
| 9. $75 \times 15 =$ _____ . | 21. $65 \times 95 =$ _____ . |
| 10. $85 \times 75 =$ _____ . | 22. $65 \times 25 =$ _____ . |
| 11. $35 \times 75 =$ _____ . | 23. $85 \times 15 =$ _____ . |
| 12. $45 \times 25 =$ _____ . | 24. $35 \times 25 =$ _____ . |

40 Prime Numbers (how many?)

- | | |
|--|--|
| 1. How many prime numbers are there between 50 and 60? _____ . | 9. How many prime numbers are there between 70 and 80? _____ . |
| 2. How many prime numbers are there between 60 and 70? _____ . | 10. How many prime numbers are there between 90 and 100? _____ . |
| 3. How many prime numbers are there between 60 and 70? _____ . | 11. How many prime numbers are there between 50 and 60? _____ . |
| 4. How many prime numbers are there between 70 and 80? _____ . | 12. How many prime numbers are there between 55 and 71? _____ . |
| 5. How many prime numbers are there between 40 and 48? _____ . | 13. How many prime numbers are there between 34 and 41? _____ . |
| 6. How many prime numbers are there between 32 and 52? _____ . | 14. How many prime numbers are there between 80 and 90? _____ . |
| 7. How many prime numbers are there between 30 and 40? _____ . | 15. How many prime numbers are there between 34 and 44? _____ . |
| 8. How many prime numbers are there between 50 and 60? _____ . | 16. How many prime numbers are there between 20 and 30? _____ . |

41 Prime Numbers (prev/next?)

1. What is the smallest prime number greater than 64?
_____.
2. What is the smallest prime number greater than 68?
_____.
3. What is the largest prime number less than 76?
_____.
4. What is the largest prime number less than 90?
_____.
5. What is the largest prime number less than 55?
_____.
6. What is the smallest prime number greater than 45?
_____.
7. What is the largest prime number less than 84?
_____.
8. What is the smallest prime number greater than 7?
_____.
9. What is the smallest prime number greater than 13?
_____.
10. What is the smallest prime number greater than 19?
_____.
11. What is the largest prime number less than 72?
_____.
12. What is the largest prime number less than 63?
_____.

42 Positive Integral Divisors (how many?)

1. The number 63 has _____ positive integral divisors.
2. How many positive integral divisors does 50 have?
_____.
3. The number 20 has _____ positive integral divisors.
4. How many positive integral divisors does 97 have?
_____.
5. How many positive integral divisors does 26 have?
_____.
6. The number 72 has _____ positive integral divisors.
7. The number 41 has _____ positive integral divisors.
8. The number 92 has _____ positive integral divisors.
9. The number 72 has _____ positive integral divisors.
10. The number 49 has _____ positive integral divisors.
11. The number 55 has _____ positive integral divisors.
12. How many positive integral divisors does 44 have?
_____.
13. How many positive integral divisors does 91 have?
_____.
14. How many positive integral divisors does 79 have?
_____.
15. How many positive integral divisors does 56 have?
_____.
16. The number 91 has _____ positive integral divisors.
17. The number 78 has _____ positive integral divisors.
18. How many positive integral divisors does 68 have?
_____.
19. How many positive integral divisors does 9 have?
_____.
20. The number 49 has _____ positive integral divisors.
21. How many positive integral divisors does 56 have?
_____.
22. The number 84 has _____ positive integral divisors.
23. How many positive integral divisors does 78 have?
_____.
24. The number 41 has _____ positive integral divisors.

43 Positive Integral Divisors (sum)

1. What is the sum of the positive integral divisors of 55? _____.
2. What is the sum of the positive integral divisors of 72? _____.
3. What is the sum of the positive integral divisors of 90? _____.
4. What is the sum of the positive integral divisors of 45? _____.
5. The sum of the positive integral divisors of 30 is _____.
6. What is the sum of the positive integral divisors of 99? _____.
7. The sum of the positive integral divisors of 20 is _____.
8. What is the sum of the positive integral divisors of 41? _____.
9. What is the sum of the positive integral divisors of 27? _____.
10. What is the sum of the positive integral divisors of 25? _____.
11. What is the sum of the positive integral divisors of 95? _____.
12. What is the sum of the positive integral divisors of 60? _____.
13. The sum of the positive integral divisors of 14 is _____.
14. The sum of the positive integral divisors of 49 is _____.
15. What is the sum of the positive integral divisors of 64? _____.
16. The sum of the positive integral divisors of 8 is _____.
17. What is the sum of the positive integral divisors of 84? _____.
18. The sum of the positive integral divisors of 94 is _____.
19. The sum of the positive integral divisors of 15 is _____.
20. What is the sum of the positive integral divisors of 35? _____.
21. What is the sum of the positive integral divisors of 77? _____.
22. What is the sum of the positive integral divisors of 6? _____.
23. What is the sum of the positive integral divisors of 27? _____.
24. What is the sum of the positive integral divisors of 98? _____.
25. What is the sum of the positive integral divisors of 81? _____.
26. What is the sum of the positive integral divisors of 70? _____.
27. What is the sum of the positive integral divisors of 16? _____.
28. What is the sum of the positive integral divisors of 27? _____.
29. What is the sum of the positive integral divisors of 63? _____.
30. The sum of the positive integral divisors of 28 is _____.

44 Greatest Common Divisor (GCD)

1. The GCD of 98 and 70 is _____.
2. The GCD of 45 and 99 is _____.
3. The GCD of 26 and 42 is _____.
4. The GCD of 17 and 28 is _____.
5. The GCD of 76 and 92 is _____.
6. The GCD of 36 and 12 is _____.
7. The GCD of 44 and 54 is _____.
8. The GCD of 21 and 81 is _____.
9. The GCD of 43 and 86 is _____.
10. The GCD of 68 and 48 is _____.
11. The GCD of 58 and 92 is _____.
12. The GCD of 91 and 96 is _____.
13. The GCD of 61 and 122 is _____.
14. The GCD of 52 and 74 is _____.
15. The GCD of 44 and 86 is _____.
16. The GCD of 68 and 60 is _____.
17. The GCD of 92 and 98 is _____.
18. The GCD of 13 and 78 is _____.
19. The GCD of 65 and 25 is _____.
20. The GCD of 87 and 74 is _____.
21. The GCD of 25 and 60 is _____.
22. The GCD of 45 and 51 is _____.
23. The GCD of 60 and 55 is _____.
24. The GCD of 28 and 56 is _____.

45 Least Common Multiple (LCM)

1. The LCM of 40 and 104 is _____.
2. The LCM of 54 and 60 is _____.
3. The LCM of 48 and 42 is _____.
4. The LCM of 15 and 40 is _____.
5. The LCM of 30 and 54 is _____.
6. The LCM of 16 and 22 is _____.
7. The LCM of 48 and 18 is _____.
8. The LCM of 16 and 44 is _____.
9. The LCM of 56 and 91 is _____.
10. The LCM of 28 and 84 is _____.
11. The LCM of 24 and 12 is _____.
12. The LCM of 35 and 30 is _____.
13. The LCM of 54 and 12 is _____.
14. The LCM of 10 and 55 is _____.
15. The LCM of 32 and 52 is _____.
16. The LCM of 24 and 26 is _____.
17. The LCM of 16 and 52 is _____.
18. The LCM of 4 and 18 is _____.
19. The LCM of 8 and 22 is _____.
20. The LCM of 6 and 10 is _____.
21. The LCM of 35 and 25 is _____.
22. The LCM of 20 and 65 is _____.
23. The LCM of 27 and 29 is _____.
24. The LCM of 14 and 21 is _____.

46 Metric Conversions

1. 8.61 hectograms = _____ grams
2. 1.3 grams = _____ milligrams
3. 919 decimeters = _____ hectometers
4. 78 kiloliters = _____ hectoliters
5. 34600 grams = _____ hectograms
6. 1.61 kilometers = _____ hectometers
7. 738 liters = _____ centiliters
8. .323 dekaliters = _____ liters
9. 807 milligrams = _____ grams
10. 17 milliliters = _____ dekaliters
11. .0908 kilometers = _____ decimeters
12. 995 hectograms = _____ grams
13. .285 hectometers = _____ millimeters
14. 227 hectograms = _____ dekagrams
15. .271 dekaliters = _____ liters
16. 5.65 kilograms = _____ hectograms
17. 1.2 hectograms = _____ dekagrams
18. 645 kiloliters = _____ centiliters
19. 335 decimeters = _____ meters
20. 8 meters = _____ millimeters
21. .947 grams = _____ milligrams
22. 39.1 hectograms = _____ centigrams
23. 558 centimeters = _____ kilometers
24. 183 centigrams = _____ milligrams
25. .918 kiloliters = _____ centiliters
26. 3.34 liters = _____ milliliters
27. 452 dekaliters = _____ liters
28. 8.45 decimeters = _____ dekameters
29. 514 dekameters = _____ hectometers
30. 191 kiloliters = _____ deciliters
31. 466 milligrams = _____ hectograms
32. 836 decigrams = _____ kilograms
33. 80.2 dekagrams = _____ hectograms
34. 58.1 kilograms = _____ milligrams
35. 3.49 decimeters = _____ hectometers
36. 3.09 meters = _____ hectometers
37. 3.28 grams = _____ decigrams
38. 426 dekagrams = _____ grams
39. 6.8 meters = _____ millimeters
40. 906 milliliters = _____ liters
41. 8.98 centimeters = _____ meters
42. 419 hectoliters = _____ dekaliters
43. 68 decimeters = _____ kilometers
44. 159 hectoliters = _____ centiliters
45. 37.5 centigrams = _____ hectograms
46. 36.1 hectometers = _____ meters
47. 84.3 hectograms = _____ centigrams
48. .4 milliliters = _____ hectoliters
49. 28.6 dekaliters = _____ liters
50. .642 decigrams = _____ milligrams

47 English Conversions – Length

1. 288 inches = _____ yards
2. 7 miles = _____ feet
3. 3520 yards = _____ miles
4. 14080 yards = _____ miles
5. 2 yards = _____ inches
6. 9 yards = _____ inches
7. 8 miles = _____ yards
8. 12 miles = _____ yards
9. 8 miles = _____ feet
10. 72 inches = _____ feet
11. 47520 feet = _____ miles
12. 6 feet = _____ yards
13. 2 feet = _____ inches
14. 6 miles = _____ feet
15. 5 miles = _____ feet
16. 36 inches = _____ feet
17. 3 miles = _____ feet
18. 2 miles = _____ yards
19. 120 inches = _____ feet
20. 3520 yards = _____ miles

48 English Conversions – Weight

1. 32 ounces = _____ pounds
2. 36 tons = _____ pounds
3. 32 ounces = _____ pounds
4. 20000 pounds = _____ tons
5. 128 ounces = _____ pounds
6. 14 pounds = _____ ounces
7. 30 tons = _____ pounds
8. 40 tons = _____ pounds
9. 44000 pounds = _____ tons
10. 70000 pounds = _____ tons
11. 3 pounds = _____ ounces
12. 46000 pounds = _____ tons
13. 144 ounces = _____ pounds
14. 32000 pounds = _____ tons
15. 32 ounces = _____ pounds
16. 2 tons = _____ pounds
17. 11 pounds = _____ ounces
18. 23 tons = _____ pounds
19. 10 pounds = _____ ounces
20. 46 tons = _____ pounds

49 English Conversions – Volume

1. 44 cups = _____ quarts
2. 176 cups = _____ gallons
3. 4 cups = _____ ounces
4. 8 cups = _____ teaspoons
5. 2816 tablespoons = _____ gallons
6. 3 gallons = _____ tablespoons
7. 2048 tablespoons = _____ gallons
8. 12 ounces = _____ teaspoons
9. 18 cups = _____ pints
10. 16 cups = _____ pints
11. 7 gallons = _____ cups
12. 2048 tablespoons = _____ gallons
13. 6 cups = _____ teaspoons
14. 6 gallons = _____ tablespoons
15. 8 pints = _____ ounces
16. 10 cups = _____ tablespoons
17. 32 ounces = _____ pints
18. 6 cups = _____ pints
19. 128 cups = _____ gallons
20. 8 quarts = _____ tablespoons

50 English Conversions – Time

1. 3 minutes = _____ seconds
2. 540 minutes = _____ hours
3. 14400 seconds = _____ hours
4. 3 days = _____ hours
5. 300 seconds = _____ minutes
6. 8 hours = _____ seconds
7. 8640 minutes = _____ days
8. 2 days = _____ hours
9. 10 hours = _____ minutes
10. 11 days = _____ hours
11. 7200 seconds = _____ hours
12. 12 days = _____ hours
13. 5 minutes = _____ seconds
14. 180 minutes = _____ hours
15. 240 seconds = _____ minutes
16. 11 days = _____ hours
17. 8 hours = _____ seconds
18. 360 seconds = _____ minutes
19. 2 hours = _____ minutes
20. 11 hours = _____ seconds

51 English Conversions – Money

1. 14 dollars = _____ nickels
2. 50 nickels = _____ quarters
3. 5 dollars – 6 quarters = _____ quarters
4. 10 half-dollars – 6 nickels = _____ dimes
5. 9 quarters – 8 pennies = _____ cents
6. 3 nickels + 5 half-dollars = _____ nickels
7. 18 dollars = _____ quarters
8. 100 nickels = _____ dollars
9. 50 pennies = _____ nickels
10. 20 dimes = _____ nickels
11. 9 half-dollars = _____ pennies
12. 10 quarters – 12 nickels = _____ dimes
13. 7 dollars = _____ half-dollars
14. 20 dimes = _____ dollars
15. 25 dimes = _____ quarters
16. 90 dimes = _____ half-dollars
17. 10 quarters = _____ nickels
18. 2 half-dollars – 2 nickels = _____ dimes
19. 10 pennies + 6 dimes = _____ dimes
20. 20 dimes = _____ half-dollars

52 Sequences

1. The next term in the sequence 9, 13, 20, 30, ... is _____.
2. The next term in the sequence 144, 196, 256, 324,... is _____.
3. The next term in the sequence 82, 101, 122, 145,... is _____.
4. The next term in the sequence 8, 27, 64, 125,... is _____.
5. The next term in the sequence 25, 62, 123, 214,... is _____.
6. The next term in the sequence 10, 22, 34, 46, ... is _____.
7. The next term in the sequence 12, 14, 17, 21, ... is _____.
8. The next term in the sequence 225, 196, 169, 144,... is _____.
9. The next term in the sequence 10, 18, 26, 34, ... is _____.
10. The next term in the sequence 8, 27, 64, 125,... is _____.
11. The next term in the sequence 36, 64, 100, 144,... is _____.
12. The next term in the sequence 4, 15, 26, 37, ... is _____.
13. The next term in the sequence 126, 217, 344, 513,... is _____.
14. The next term in the sequence 7, 9, 15, 25, ... is _____.
15. The next term in the sequence 256, 225, 196, 169,... is _____.
16. The next term in the sequence 4, 8, 17, 31, ... is _____.
17. The next term in the sequence 1, 4, 9, 16,... is _____.
18. The next term in the sequence 8, 20, 32, 44, ... is _____.

53 Sum of Consecutive Whole Numbers

1. $1 + 2 + 3 + 4 + 5 + 6 =$ _____ .
2. $1 + 2 + 3 + 4 + \dots + 9 =$ _____ .
3. $1 + 2 + 3 + 4 + \dots + 59 =$ _____ .
4. $3 + 4 + 5 + 6 + \dots + 12 =$ _____ .
5. $1 + 2 + 3 + 4 + \dots + 20 =$ _____ .
6. $7 + 8 + 9 + 10 + \dots + 16 =$ _____ .
7. $1 + 2 + 3 + 4 + \dots + 80 =$ _____ .
8. $1 + 2 + 3 + 4 + \dots + 59 =$ _____ .
9. $12 + 13 + 14 + 15 + \dots + 25 =$ _____ .
10. $9 + 10 + 11 + 12 + \dots + 24 =$ _____ .
11. $2 + 3 + 4 + 5 + \dots + 18 =$ _____ .
12. $1 + 2 + 3 + 4 + \dots + 79 =$ _____ .
13. $1 + 2 + 3 + 4 + \dots + 8 =$ _____ .
14. $1 + 2 + 3 + 4 + \dots + 15 =$ _____ .
15. $1 + 2 + 3 + 4 + \dots + 20 =$ _____ .
16. $1 + 2 + 3 + 4 + \dots + 40 =$ _____ .
17. $10 + 11 + 12 + 13 + \dots + 19 =$ _____ .
18. $4 + 5 + 6 + 7 + \dots + 18 =$ _____ .
19. $11 + 12 + 13 + 14 + \dots + 23 =$ _____ .
20. $1 + 2 + 3 + 4 + \dots + 11 =$ _____ .

54 Sum of Odd Whole Numbers

1. $5 + 7 + 9 + 11 + \dots + 29 =$ _____ .
2. $3 + 5 + 7 + 9 + \dots + 27 =$ _____ .
3. $1 + 3 + 5 + 7 + \dots + 57 =$ _____ .
4. $1 + 3 + 5 + 7 + \dots + 93 =$ _____ .
5. $9 + 11 + 13 + 15 + \dots + 29 =$ _____ .
6. $5 + 7 + 9 + 11 + \dots + 27 =$ _____ .
7. $1 + 3 + 5 + 7 + \dots + 25 =$ _____ .
8. $11 + 13 + 15 + 17 + \dots + 37 =$ _____ .
9. $5 + 7 + 9 + 11 + \dots + 23 =$ _____ .
10. $1 + 3 + 5 + 7 + \dots + 29 =$ _____ .
11. $9 + 11 + 13 + 15 + \dots + 35 =$ _____ .
12. $15 + 17 + 19 + 21 + \dots + 41 =$ _____ .
13. $9 + 11 + 13 + 15 + \dots + 29 =$ _____ .
14. $7 + 9 + 11 + 13 + \dots + 29 =$ _____ .
15. $3 + 5 + 7 + 9 + \dots + 31 =$ _____ .
16. $15 + 17 + 19 + 21 + \dots + 35 =$ _____ .
17. $5 + 7 + 9 + 11 + \dots + 21 =$ _____ .
18. $13 + 15 + 17 + 19 + \dots + 33 =$ _____ .
19. $1 + 3 + 5 + 7 + \dots + 81 =$ _____ .
20. $7 + 9 + 11 + 13 + \dots + 39 =$ _____ .

55 Order of Operations

1. $9 \times (3 + 7) + 1 =$ _____ .
2. $12 + 100 \div 10 =$ _____ .
3. $72 \div 8 + 5 \times 9 =$ _____ .
4. $14 \div 7 + 5 \times 2 =$ _____ .
5. $11 + 5 \times 4 - 5 =$ _____ .
6. $11 + 55 \div 5 =$ _____ .
7. $7 \times (7 - 6) + 3 =$ _____ .
8. $(9 - 5) \times 6 =$ _____ .
9. $35 \div 7 + 8 =$ _____ .
10. $16 \div 2 + 6 \times 2 =$ _____ .
11. $8 + 27 \div 9 =$ _____ .
12. $4 + 3 \times 6 - 5 =$ _____ .
13. $9 + 54 \div 6 =$ _____ .
14. $1 + 6 \times 5 =$ _____ .
15. $3 \div 3 + 12 =$ _____ .
16. $9 \times 3 + 4 \times 7 =$ _____ .
17. $3 \times 9 + 2 =$ _____ .
18. $6 + 72 \div 6 =$ _____ .
19. $12 \div 4 + 6 =$ _____ .
20. $3 + 120 \div 12 =$ _____ .
21. $12 + 2 \times 5 - 5 =$ _____ .
22. $(7 + 7) \times 7 =$ _____ .
23. $70 \div 10 + 8 \times 7 =$ _____ .
24. $15 + 2 \times 3 =$ _____ .
25. $9 + 4 \times 2 - 3 =$ _____ .
26. $4^2 + 9 \times 8 =$ _____ .
27. $1 + 4 \times 8 =$ _____ .
28. $144 \div 12 + 8 \times 2 =$ _____ .
29. $16 + 5 \times 4 =$ _____ .
30. $6 + 77 \div 11 =$ _____ .
31. $5 + 8 \times 5 - 5 =$ _____ .
32. $6 \times 6 + 9 =$ _____ .
33. $(5 - 2) \times 6 =$ _____ .
34. $4^2 + 8 \times 5 =$ _____ .
35. $10 \times 5 + 7 =$ _____ .
36. $12 \div 3 + 9 =$ _____ .
37. $9 \times (7 + 9) + 9 =$ _____ .
38. $12^2 + 4 \times 5 =$ _____ .
39. $14 + 4 \times 3 =$ _____ .
40. $20 + 5 \times 6 =$ _____ .
41. $2^2 + 9 \times 9 =$ _____ .
42. $4 + 48 \div 12 =$ _____ .
43. $(6 + 6) \times 4 =$ _____ .
44. $24 \div 4 + 8 =$ _____ .
45. $4 + 5 \times 8 - 9 =$ _____ .
46. $18 \div 2 + 4 \times 8 =$ _____ .
47. $6 \times 7 + 11 \times 4 =$ _____ .
48. $2 \times (9 + 6) + 7 =$ _____ .
49. $16 \div 4 + 2 =$ _____ .
50. $2 + 14 \div 7 =$ _____ .

56 Squares (31-40)

- | | |
|----------------------|----------------------|
| 1. $36^2 =$ _____ . | 11. $39^2 =$ _____ . |
| 2. $33^2 =$ _____ . | 12. $31^2 =$ _____ . |
| 3. $34^2 =$ _____ . | 13. $34^2 =$ _____ . |
| 4. $39^2 =$ _____ . | 14. $32^2 =$ _____ . |
| 5. $32^2 =$ _____ . | 15. $39^2 =$ _____ . |
| 6. $35^2 =$ _____ . | 16. $38^2 =$ _____ . |
| 7. $31^2 =$ _____ . | 17. $36^2 =$ _____ . |
| 8. $33^2 =$ _____ . | 18. $37^2 =$ _____ . |
| 9. $39^2 =$ _____ . | 19. $31^2 =$ _____ . |
| 10. $35^2 =$ _____ . | 20. $38^2 =$ _____ . |

57 Squares (41-50)

- | | |
|----------------------|----------------------|
| 1. $44^2 =$ _____ . | 11. $42^2 =$ _____ . |
| 2. $48^2 =$ _____ . | 12. $46^2 =$ _____ . |
| 3. $49^2 =$ _____ . | 13. $45^2 =$ _____ . |
| 4. $47^2 =$ _____ . | 14. $41^2 =$ _____ . |
| 5. $48^2 =$ _____ . | 15. $45^2 =$ _____ . |
| 6. $46^2 =$ _____ . | 16. $43^2 =$ _____ . |
| 7. $43^2 =$ _____ . | 17. $48^2 =$ _____ . |
| 8. $42^2 =$ _____ . | 18. $42^2 =$ _____ . |
| 9. $41^2 =$ _____ . | 19. $47^2 =$ _____ . |
| 10. $45^2 =$ _____ . | 20. $41^2 =$ _____ . |

58 Squares (51-60)

- | | |
|----------------------|----------------------|
| 1. $56^2 =$ _____ . | 11. $56^2 =$ _____ . |
| 2. $60^2 =$ _____ . | 12. $60^2 =$ _____ . |
| 3. $52^2 =$ _____ . | 13. $51^2 =$ _____ . |
| 4. $54^2 =$ _____ . | 14. $59^2 =$ _____ . |
| 5. $51^2 =$ _____ . | 15. $53^2 =$ _____ . |
| 6. $53^2 =$ _____ . | 16. $55^2 =$ _____ . |
| 7. $59^2 =$ _____ . | 17. $57^2 =$ _____ . |
| 8. $54^2 =$ _____ . | 18. $52^2 =$ _____ . |
| 9. $57^2 =$ _____ . | 19. $54^2 =$ _____ . |
| 10. $55^2 =$ _____ . | 20. $51^2 =$ _____ . |

59 Squares of Numbers Ending in 5

- | | |
|----------------------|----------------------|
| 1. $15^2 =$ _____ . | 11. $45^2 =$ _____ . |
| 2. $35^2 =$ _____ . | 12. $75^2 =$ _____ . |
| 3. $75^2 =$ _____ . | 13. $95^2 =$ _____ . |
| 4. $55^2 =$ _____ . | 14. $65^2 =$ _____ . |
| 5. $25^2 =$ _____ . | 15. $55^2 =$ _____ . |
| 6. $85^2 =$ _____ . | 16. $45^2 =$ _____ . |
| 7. $15^2 =$ _____ . | 17. $35^2 =$ _____ . |
| 8. $65^2 =$ _____ . | 18. $65^2 =$ _____ . |
| 9. $55^2 =$ _____ . | 19. $85^2 =$ _____ . |
| 10. $75^2 =$ _____ . | 20. $45^2 =$ _____ . |

60 Cubes (1-12)

- | | |
|----------------------|----------------------|
| 1. $6^3 =$ _____ . | 11. $2^3 =$ _____ . |
| 2. $10^3 =$ _____ . | 12. $3^3 =$ _____ . |
| 3. $7^3 =$ _____ . | 13. $1^3 =$ _____ . |
| 4. $12^3 =$ _____ . | 14. $8^3 =$ _____ . |
| 5. $8^3 =$ _____ . | 15. $11^3 =$ _____ . |
| 6. $2^3 =$ _____ . | 16. $7^3 =$ _____ . |
| 7. $3^3 =$ _____ . | 17. $12^3 =$ _____ . |
| 8. $9^3 =$ _____ . | 18. $8^3 =$ _____ . |
| 9. $4^3 =$ _____ . | 19. $9^3 =$ _____ . |
| 10. $11^3 =$ _____ . | 20. $3^3 =$ _____ . |

61 Common Fractions to Percents

- | | |
|--------------------------------|--------------------------------|
| 1. $\frac{1}{7} =$ _____ %. | 26. $\frac{3}{7} =$ _____ %. |
| 2. $\frac{1}{3} =$ _____ %. | 27. $\frac{1}{6} =$ _____ %. |
| 3. $\frac{1}{10} =$ _____ %. | 28. $\frac{8}{9} =$ _____ %. |
| 4. $\frac{1}{3} =$ _____ %. | 29. $\frac{3}{11} =$ _____ %. |
| 5. $\frac{1}{2} =$ _____ %. | 30. $\frac{11}{12} =$ _____ %. |
| 6. $\frac{1}{6} =$ _____ %. | 31. $\frac{7}{10} =$ _____ %. |
| 7. $\frac{1}{4} =$ _____ %. | 32. $\frac{4}{7} =$ _____ %. |
| 8. $\frac{4}{9} =$ _____ %. | 33. $\frac{1}{4} =$ _____ %. |
| 9. $\frac{7}{10} =$ _____ %. | 34. $\frac{3}{10} =$ _____ %. |
| 10. $\frac{3}{11} =$ _____ %. | 35. $\frac{5}{11} =$ _____ %. |
| 11. $\frac{6}{7} =$ _____ %. | 36. $\frac{3}{11} =$ _____ %. |
| 12. $\frac{3}{4} =$ _____ %. | 37. $\frac{3}{7} =$ _____ %. |
| 13. $\frac{3}{4} =$ _____ %. | 38. $\frac{1}{2} =$ _____ %. |
| 14. $\frac{3}{5} =$ _____ %. | 39. $\frac{11}{12} =$ _____ %. |
| 15. $\frac{7}{9} =$ _____ %. | 40. $\frac{7}{12} =$ _____ %. |
| 16. $\frac{1}{8} =$ _____ %. | 41. $\frac{3}{8} =$ _____ %. |
| 17. $\frac{1}{3} =$ _____ %. | 42. $\frac{7}{12} =$ _____ %. |
| 18. $\frac{6}{11} =$ _____ %. | 43. $\frac{1}{9} =$ _____ %. |
| 19. $\frac{1}{2} =$ _____ %. | 44. $\frac{8}{9} =$ _____ %. |
| 20. $\frac{1}{9} =$ _____ %. | 45. $\frac{11}{12} =$ _____ %. |
| 21. $\frac{1}{6} =$ _____ %. | 46. $\frac{5}{6} =$ _____ %. |
| 22. $\frac{5}{12} =$ _____ %. | 47. $\frac{9}{10} =$ _____ %. |
| 23. $\frac{3}{4} =$ _____ %. | 48. $\frac{1}{3} =$ _____ %. |
| 24. $\frac{1}{6} =$ _____ %. | 49. $\frac{1}{8} =$ _____ %. |
| 25. $\frac{11}{12} =$ _____ %. | 50. $\frac{1}{5} =$ _____ %. |

62 Changing Decimals, Percents, and Fractions

1. $13\% =$ _____ (fraction)
2. $0.93 =$ _____ %.
3. $0.84 =$ _____ %.
4. $6.64 =$ _____ %.
5. $58\% =$ _____ (decimal).
6. $1.92 =$ _____ %.
7. $69\% =$ _____ (decimal).
8. $59\% =$ _____ (decimal).
9. $99\% =$ _____ (fraction)
10. $0.88 =$ _____ %.
11. $51\% =$ _____ (decimal).
12. $0.04 =$ _____ %.
13. $9.17 =$ _____ %.
14. $0.23 =$ _____ %.
15. $9.72 =$ _____ %.
16. $91\% =$ _____ (decimal).
17. $0.54 =$ _____ %.
18. $0.7 =$ _____ %.
19. $74\% =$ _____ (fraction)
20. $37\% =$ _____ (fraction)
21. $58\% =$ _____ (fraction)
22. $2.84 =$ _____ %.
23. $3.53 =$ _____ %.
24. $45\% =$ _____ (decimal).
25. $0.92 =$ _____ %.
26. $0.6 =$ _____ %.
27. $80\% =$ _____ (decimal).
28. $9.54 =$ _____ %.
29. $2.83 =$ _____ %.
30. $4.89 =$ _____ %.
31. $60\% =$ _____ (decimal).
32. $8.71 =$ _____ %.
33. $85\% =$ _____ (decimal).
34. $0.05 =$ _____ %.
35. $66\% =$ _____ (fraction)
36. $0.33 =$ _____ %.
37. $9.21 =$ _____ %.
38. $44\% =$ _____ (decimal).
39. $9.88 =$ _____ %.
40. $7.57 =$ _____ %.
41. $36\% =$ _____ (fraction)
42. $7.77 =$ _____ %.
43. $98\% =$ _____ (fraction)
44. $3.99 =$ _____ %.
45. $9.78 =$ _____ %.
46. $6.96 =$ _____ %.
47. $5.17 =$ _____ %.
48. $0.24 =$ _____ %.
49. $0.59 =$ _____ %.
50. $28\% =$ _____ (decimal).

63 Adding and Subtracting Decimals

1. $87.5 - 0.072 =$ _____ .
2. $8.73 - 0.568 =$ _____ .
3. $9.57 + 4.73 =$ _____ .
4. $0.729 + 0.305 =$ _____ .
5. $54.3 - 5.96 =$ _____ .
6. $3.7 - 0.383 =$ _____ .
7. $0.824 - 0.73 =$ _____ .
8. $2.6 + 6 =$ _____ .
9. $1.5 + 0.303 =$ _____ .
10. $7.15 - 6.04 =$ _____ .
11. $86.2 + 0.731 =$ _____ .
12. $0.163 + 7.5 =$ _____ .
13. $2.17 + 84.9 =$ _____ .
14. $4.98 + 37.7 =$ _____ .
15. $63.5 - 0.204 =$ _____ .
16. $2.63 - 0.845 =$ _____ .
17. $0.766 + 3.2 =$ _____ .
18. $3.17 + 9.26 =$ _____ .
19. $0.878 + 91.3 =$ _____ .
20. $0.854 - 0.328 =$ _____ .
21. $4.41 - 0.625 =$ _____ .
22. $2.04 + 0.286 =$ _____ .
23. $98.9 + 84.6 =$ _____ .
24. $80.2 - 0.276 =$ _____ .
25. $7.28 - 6.82 =$ _____ .
26. $53.8 - 8.78 =$ _____ .
27. $4.1 + 0.159 =$ _____ .
28. $70.7 + 20.2 =$ _____ .
29. $26.2 + 97.8 =$ _____ .
30. $49.8 + 13.4 =$ _____ .
31. $20.2 - 2.38 =$ _____ .
32. $0.41 + 92.5 =$ _____ .
33. $68 - 50.4 =$ _____ .
34. $4.41 - 4.24 =$ _____ .
35. $2.15 - 0.671 =$ _____ .
36. $32 + 0.843 =$ _____ .
37. $0.629 + 8.61 =$ _____ .
38. $41.6 - 2.42 =$ _____ .
39. $85.8 - 3.68 =$ _____ .
40. $36.9 - 8.91 =$ _____ .
41. $0.952 + 3.04 =$ _____ .
42. $0.737 + 35.1 =$ _____ .
43. $1.11 + 0.37 =$ _____ .
44. $7.32 + 9.24 =$ _____ .
45. $1.43 - 0.372 =$ _____ .
46. $1.41 + 3.76 =$ _____ .
47. $13.3 - 0.78 =$ _____ .
48. $6.1 - 2.15 =$ _____ .
49. $0.578 + 0.198 =$ _____ .
50. $53.9 - 0.742 =$ _____ .

64 Multiplying and Dividing Decimals

1. $0.59 \times 0.05 =$ _____ .
2. $0.47 \times 0.9 =$ _____ .
3. $0.2 \times 0.03 =$ _____ .
4. $0.98 \times 0.4 =$ _____ .
5. $0.02 \times 0.8 =$ _____ .
6. $0.57 \times 0.9 =$ _____ .
7. $6 \times 0.3 =$ _____ .
8. $0.204 \div 0.6 =$ _____ .
9. $6.8 \times 0.4 =$ _____ .
10. $6.6 \times 0.2 =$ _____ .
11. $0.49 \div 0.07 =$ _____ .
12. $0.31 \times 0.03 =$ _____ .
13. $0.828 \div 0.9 =$ _____ .
14. $4.7 \times 0.08 =$ _____ .
15. $0.019 \div 0.02 =$ _____ .
16. $6.93 \div 0.7 =$ _____ .
17. $0.144 \div 0.8 =$ _____ .
18. $4.4 \times 0.02 =$ _____ .
19. $0.14 \times 0.07 =$ _____ .
20. $0.71 \times 0.01 =$ _____ .
21. $0.77 \times 0.7 =$ _____ .
22. $0.0041 \div 0.01 =$ _____ .
23. $0.0161 \div 0.07 =$ _____ .
24. $0.246 \div 0.3 =$ _____ .
25. $0.104 \div 0.8 =$ _____ .
26. $1.45 \div 0.5 =$ _____ .
27. $5.18 \div 0.7 =$ _____ .
28. $0.18 \div 0.2 =$ _____ .
29. $0.75 \div 0.3 =$ _____ .
30. $7.84 \div 0.8 =$ _____ .
31. $0.114 \div 0.3 =$ _____ .
32. $1.8 \div 0.2 =$ _____ .
33. $2.7 \times 0.03 =$ _____ .
34. $5.3 \times 0.4 =$ _____ .
35. $7.1 \times 0.08 =$ _____ .
36. $4.48 \div 0.8 =$ _____ .
37. $0.828 \div 0.9 =$ _____ .
38. $0.67 \times 0.05 =$ _____ .
39. $0.546 \div 0.6 =$ _____ .
40. $6.7 \times 0.01 =$ _____ .
41. $0.26 \times 0.09 =$ _____ .
42. $0.415 \div 0.05 =$ _____ .
43. $4.1 \times 0.04 =$ _____ .
44. $0.41 \times 0.02 =$ _____ .
45. $9.2 \times 0.07 =$ _____ .
46. $1.1 \times 0.08 =$ _____ .
47. $0.553 \div 0.7 =$ _____ .
48. $0.0053 \div 0.01 =$ _____ .
49. $8 \times 0.5 =$ _____ .
50. $0.0728 \div 0.08 =$ _____ .

65 Comparing Fractions

1. Which of the following is smaller: $\frac{2}{15}$ or $\frac{5}{7}$? _____
2. Which of the following is smaller: $\frac{1}{4}$ or $\frac{8}{9}$? _____
3. Which of the following is smaller: $\frac{1}{3}$ or $\frac{4}{5}$? _____
4. Which of the following is smaller: $\frac{6}{19}$ or $\frac{7}{19}$? _____
5. Which of the following is larger: $\frac{14}{19}$ or $\frac{1}{2}$? _____
6. Which of the following is larger: $\frac{7}{8}$ or $\frac{7}{10}$? _____
7. Which of the following is smaller: $\frac{1}{5}$ or $\frac{1}{7}$? _____
8. Which of the following is larger: $\frac{6}{11}$ or $\frac{1}{5}$? _____
9. Which of the following is larger: $\frac{3}{4}$ or $\frac{1}{3}$? _____
10. Which of the following is smaller: $\frac{7}{10}$ or $\frac{2}{5}$? _____
11. Which of the following is larger: $\frac{2}{5}$ or $\frac{1}{5}$? _____
12. Which of the following is smaller: $\frac{1}{2}$ or $\frac{16}{19}$? _____
13. Which of the following is smaller: $\frac{11}{19}$ or $\frac{12}{13}$? _____
14. Which of the following is smaller: $\frac{10}{11}$ or $\frac{17}{18}$? _____
15. Which of the following is smaller: $\frac{15}{16}$ or $\frac{1}{2}$? _____
16. Which of the following is larger: $\frac{1}{6}$ or $\frac{2}{3}$? _____
17. Which of the following is larger: $\frac{3}{8}$ or $\frac{2}{3}$? _____
18. Which of the following is smaller: $\frac{11}{20}$ or $\frac{1}{9}$? _____
19. Which of the following is smaller: $\frac{9}{13}$ or $\frac{6}{11}$? _____
20. Which of the following is larger: $\frac{2}{5}$ or $\frac{1}{12}$? _____
21. Which of the following is larger: $\frac{1}{12}$ or $\frac{5}{6}$? _____
22. Which of the following is larger: $\frac{10}{17}$ or $\frac{2}{5}$? _____
23. Which of the following is larger: $\frac{16}{19}$ or $\frac{7}{9}$? _____
24. Which of the following is larger: $\frac{1}{13}$ or $\frac{1}{2}$? _____
25. Which of the following is smaller: $\frac{1}{2}$ or $\frac{1}{9}$? _____
26. Which of the following is smaller: $\frac{3}{11}$ or $\frac{1}{9}$? _____
27. Which of the following is larger: $\frac{1}{3}$ or $\frac{1}{2}$? _____
28. Which of the following is larger: $\frac{1}{2}$ or $\frac{13}{15}$? _____
29. Which of the following is smaller: $\frac{4}{15}$ or $\frac{3}{8}$? _____
30. Which of the following is larger: $\frac{16}{17}$ or $\frac{7}{10}$? _____
31. Which of the following is smaller: $\frac{4}{15}$ or $\frac{11}{13}$? _____
32. Which of the following is larger: $\frac{8}{11}$ or $\frac{7}{17}$? _____
33. Which of the following is larger: $\frac{4}{17}$ or $\frac{1}{10}$? _____
34. Which of the following is larger: $\frac{1}{2}$ or $\frac{5}{17}$? _____
35. Which of the following is larger: $\frac{3}{7}$ or $\frac{3}{11}$? _____
36. Which of the following is smaller: $\frac{12}{17}$ or $\frac{5}{19}$? _____
37. Which of the following is smaller: $\frac{1}{2}$ or $\frac{1}{8}$? _____
38. Which of the following is smaller: $\frac{5}{8}$ or $\frac{1}{2}$? _____

66 Adding and Subtracting Fractions with Common Denominators

1. $\frac{17}{18} + \frac{11}{18} =$ _____

10. $\frac{1}{12} - \frac{5}{12} =$ _____

2. $\frac{7}{9} - \frac{1}{9} =$ _____

11. $\frac{7}{8} - \frac{5}{8} =$ _____

3. $\frac{3}{14} + \frac{1}{14} =$ _____

12. $\frac{5}{19} + \frac{11}{19} =$ _____

4. $\frac{7}{8} - \frac{1}{8} =$ _____

13. $\frac{8}{13} - \frac{2}{13} =$ _____

5. $\frac{8}{19} + \frac{1}{19} =$ _____

14. $\frac{2}{13} - \frac{4}{13} =$ _____

6. $\frac{2}{5} + \frac{1}{5} =$ _____

15. $\frac{3}{10} + \frac{7}{10} =$ _____

7. $\frac{13}{15} + \frac{8}{15} =$ _____

16. $\frac{7}{9} - \frac{2}{9} =$ _____

8. $\frac{2}{13} - \frac{4}{13} =$ _____

17. $\frac{1}{8} - \frac{3}{8} =$ _____

9. $\frac{5}{17} + \frac{3}{17} =$ _____

18. $\frac{15}{19} - \frac{3}{19} =$ _____

67 Adding and Subtracting Fractions with Different Denominators

1. $\frac{1}{4} + \frac{1}{3} =$ _____ .

10. $\frac{8}{11} - \frac{1}{2} =$ _____ .

2. $\frac{1}{2} + \frac{3}{8} =$ _____ .

11. $\frac{1}{6} + \frac{1}{12} =$ _____ .

3. $\frac{1}{6} + \frac{5}{12} =$ _____ .

12. $\frac{4}{5} - \frac{1}{10} =$ _____ .

4. $\frac{5}{8} - \frac{1}{7} =$ _____ .

13. $\frac{3}{4} - \frac{1}{5} =$ _____ .

5. $\frac{2}{11} + \frac{4}{7} =$ _____ .

14. $\frac{9}{11} + \frac{1}{2} =$ _____ .

6. $\frac{5}{11} + \frac{2}{3} =$ _____ .

15. $\frac{4}{7} - \frac{2}{5} =$ _____ .

7. $\frac{3}{8} + \frac{8}{9} =$ _____ .

16. $\frac{8}{11} - \frac{3}{5} =$ _____ .

8. $\frac{8}{11} + \frac{3}{8} =$ _____ .

17. $\frac{1}{4} - \frac{1}{6} =$ _____ .

9. $\frac{1}{3} + \frac{5}{7} =$ _____ .

18. $\frac{1}{3} + \frac{7}{11} =$ _____ .

68 Special Fraction Sum: $a/b + b/a$

1. $\frac{9}{10} + \frac{10}{9} =$ _____ (mixed number).

10. $\frac{7}{13} + \frac{13}{7} =$ _____ (mixed number).

2. $\frac{2}{5} + \frac{5}{2} =$ _____ (mixed number).

11. $\frac{3}{4} + \frac{4}{3} =$ _____ (mixed number).

3. $\frac{5}{11} + \frac{11}{5} =$ _____ (mixed number).

12. $\frac{7}{10} + \frac{10}{7} =$ _____ (mixed number).

4. $\frac{5}{8} + \frac{8}{5} =$ _____ (mixed number).

13. $\frac{10}{11} + \frac{11}{10} =$ _____ (mixed number).

5. $\frac{5}{9} + \frac{9}{5} =$ _____ (mixed number).

14. $\frac{11}{12} + \frac{12}{11} =$ _____ (mixed number).

6. $\frac{13}{14} + \frac{14}{13} =$ _____ (mixed number).

15. $\frac{7}{9} + \frac{9}{7} =$ _____ (mixed number).

7. $\frac{9}{14} + \frac{14}{9} =$ _____ (mixed number).

16. $\frac{5}{11} + \frac{11}{5} =$ _____ (mixed number).

8. $\frac{14}{15} + \frac{15}{14} =$ _____ (mixed number).

17. $\frac{6}{11} + \frac{11}{6} =$ _____ (mixed number).

9. $\frac{5}{11} + \frac{11}{5} =$ _____ (mixed number).

18. $\frac{5}{9} + \frac{9}{5} =$ _____ (mixed number).

69 Special Fraction Sum: $a/b + b/(a+b)$

1. $\frac{2}{11} + \frac{11}{13} =$ _____ (mixed number).

10. $\frac{3}{8} + \frac{8}{11} =$ _____ (mixed number).

2. $\frac{4}{7} + \frac{7}{11} =$ _____ (mixed number).

11. $\frac{11}{12} + \frac{12}{23} =$ _____ (mixed number).

3. $\frac{1}{8} + \frac{8}{9} =$ _____ (mixed number).

12. $\frac{7}{12} + \frac{5}{7} =$ _____ (mixed number).

4. $\frac{5}{7} + \frac{2}{5} =$ _____ (mixed number).

13. $\frac{12}{19} + \frac{7}{12} =$ _____ (mixed number).

5. $\frac{11}{14} + \frac{3}{11} =$ _____ (mixed number).

14. $\frac{7}{11} + \frac{11}{18} =$ _____ (mixed number).

6. $\frac{4}{9} + \frac{9}{13} =$ _____ (mixed number).

15. $\frac{1}{11} + \frac{11}{12} =$ _____ (mixed number).

7. $\frac{6}{7} + \frac{1}{6} =$ _____ (mixed number).

16. $\frac{6}{11} + \frac{11}{17} =$ _____ (mixed number).

8. $\frac{7}{12} + \frac{12}{19} =$ _____ (mixed number).

17. $\frac{5}{12} + \frac{12}{17} =$ _____ (mixed number).

9. $\frac{3}{7} + \frac{7}{10} =$ _____ (mixed number).

18. $\frac{5}{8} + \frac{3}{5} =$ _____ (mixed number).

70 Multiplying Fractions

1. $\frac{7}{10} \times \frac{1}{2} =$ _____
2. $\frac{2}{3} \times \frac{3}{4} =$ _____
3. $\frac{2}{11} \times \frac{3}{4} =$ _____
4. $\frac{1}{2} \times \frac{5}{12} =$ _____
5. $\frac{1}{12} \times \frac{2}{3} =$ _____
6. $\frac{1}{8} \times \frac{3}{5} =$ _____
7. $\frac{2}{11} \times \frac{7}{9} =$ _____
8. $\frac{1}{12} \times \frac{2}{7} =$ _____
9. $\frac{3}{7} \times \frac{11}{12} =$ _____
10. $\frac{10}{11} \times \frac{1}{11} =$ _____
11. $\frac{4}{5} \times \frac{5}{8} =$ _____
12. $\frac{7}{11} \times \frac{2}{5} =$ _____
13. $\frac{1}{4} \times \frac{1}{10} =$ _____
14. $\frac{1}{4} \times \frac{8}{9} =$ _____
15. $\frac{5}{8} \times \frac{1}{6} =$ _____
16. $\frac{8}{9} \times \frac{1}{9} =$ _____
17. $\frac{7}{10} \times \frac{7}{9} =$ _____
18. $\frac{2}{5} \times \frac{9}{11} =$ _____
19. $\frac{2}{3} \times \frac{3}{5} =$ _____
20. $\frac{3}{7} \times \frac{3}{8} =$ _____
21. $\frac{1}{3} \times \frac{1}{6} =$ _____
22. $\frac{1}{3} \times \frac{1}{9} =$ _____
23. $\frac{3}{4} \times \frac{1}{12} =$ _____
24. $\frac{11}{12} \times \frac{3}{8} =$ _____
25. $\frac{5}{11} \times \frac{5}{6} =$ _____
26. $\frac{2}{5} \times \frac{6}{7} =$ _____
27. $\frac{1}{6} \times \frac{3}{5} =$ _____
28. $\frac{11}{12} \times \frac{3}{10} =$ _____
29. $\frac{9}{10} \times \frac{4}{9} =$ _____
30. $\frac{1}{6} \times \frac{1}{3} =$ _____
31. $\frac{5}{7} \times \frac{2}{5} =$ _____
32. $\frac{1}{4} \times \frac{2}{9} =$ _____
33. $\frac{7}{8} \times \frac{3}{7} =$ _____
34. $\frac{1}{3} \times \frac{5}{9} =$ _____
35. $\frac{6}{11} \times \frac{2}{3} =$ _____
36. $\frac{3}{8} \times \frac{2}{9} =$ _____

71 Dividing Fractions

1. $\frac{8}{9} \div \frac{8}{11} =$ _____
2. $\frac{7}{11} \div \frac{5}{9} =$ _____
3. $\frac{4}{7} \div \frac{3}{5} =$ _____
4. $\frac{1}{2} \div \frac{8}{9} =$ _____
5. $\frac{7}{8} \div \frac{3}{11} =$ _____
6. $\frac{5}{9} \div \frac{1}{3} =$ _____
7. $\frac{3}{10} \div \frac{1}{2} =$ _____
8. $\frac{1}{6} \div \frac{6}{7} =$ _____
9. $\frac{6}{11} \div \frac{3}{11} =$ _____
10. $\frac{3}{4} \div \frac{3}{5} =$ _____
11. $\frac{7}{10} \div \frac{1}{3} =$ _____
12. $\frac{5}{6} \div \frac{1}{4} =$ _____
13. $\frac{3}{5} \div \frac{11}{12} =$ _____
14. $\frac{1}{3} \div \frac{11}{12} =$ _____
15. $\frac{1}{3} \div \frac{3}{4} =$ _____
16. $\frac{1}{3} \div \frac{1}{10} =$ _____
17. $\frac{1}{2} \div \frac{2}{7} =$ _____
18. $\frac{3}{8} \div \frac{1}{2} =$ _____
19. $\frac{1}{3} \div \frac{5}{8} =$ _____
20. $\frac{1}{2} \div \frac{8}{9} =$ _____
21. $\frac{3}{4} \div \frac{3}{5} =$ _____
22. $\frac{1}{5} \div \frac{2}{5} =$ _____
23. $\frac{3}{11} \div \frac{1}{11} =$ _____
24. $\frac{4}{5} \div \frac{2}{7} =$ _____
25. $\frac{7}{9} \div \frac{4}{5} =$ _____
26. $\frac{1}{2} \div \frac{3}{8} =$ _____
27. $\frac{1}{6} \div \frac{9}{10} =$ _____
28. $\frac{3}{5} \div \frac{1}{2} =$ _____
29. $\frac{1}{2} \div \frac{7}{10} =$ _____
30. $\frac{1}{6} \div \frac{3}{4} =$ _____
31. $\frac{1}{2} \div \frac{5}{12} =$ _____
32. $\frac{3}{10} \div \frac{1}{2} =$ _____
33. $\frac{1}{12} \div \frac{3}{11} =$ _____
34. $\frac{1}{7} \div \frac{2}{3} =$ _____
35. $\frac{1}{8} \div \frac{5}{6} =$ _____
36. $\frac{1}{2} \div \frac{5}{7} =$ _____

72 Adding Mixed Numbers

1. $2\frac{2}{3} + 4\frac{1}{6} =$ _____ (mixed number)
2. $9\frac{1}{2} + 3\frac{1}{4} =$ _____ (mixed number)
3. $2\frac{2}{3} + 1\frac{11}{12} =$ _____ (mixed number)
4. $3\frac{1}{2} + 5\frac{1}{6} =$ _____ (mixed number)
5. $3\frac{3}{10} + 2\frac{1}{2} =$ _____ (mixed number)
6. $8\frac{1}{8} + 2\frac{1}{4} =$ _____ (mixed number)
7. $7\frac{3}{4} + 9\frac{1}{2} =$ _____ (mixed number)
8. $7\frac{4}{7} + 3\frac{6}{7} =$ _____ (mixed number)
9. $7\frac{7}{9} + 6\frac{1}{3} =$ _____ (mixed number)
10. $4\frac{5}{12} + 7\frac{1}{4} =$ _____ (mixed number)
11. $9\frac{7}{12} + 9\frac{5}{6} =$ _____ (mixed number)
12. $5\frac{1}{2} + 6\frac{9}{11} =$ _____ (mixed number)
13. $3\frac{7}{12} + 1\frac{1}{9} =$ _____ (mixed number)
14. $2\frac{5}{8} + 4\frac{1}{10} =$ _____ (mixed number)
15. $4\frac{1}{2} + 6\frac{1}{9} =$ _____ (mixed number)
16. $5\frac{1}{9} + 3\frac{5}{6} =$ _____ (mixed number)
17. $2\frac{5}{8} + 5\frac{3}{4} =$ _____ (mixed number)
18. $8\frac{5}{6} + 9\frac{7}{10} =$ _____ (mixed number)
19. $8\frac{1}{3} + 3\frac{2}{3} =$ _____ .
20. $8\frac{4}{7} + 2\frac{7}{8} =$ _____ (mixed number)
21. $6\frac{3}{4} + 1\frac{2}{5} =$ _____ (mixed number)
22. $6\frac{3}{10} + 9\frac{1}{8} =$ _____ (mixed number)
23. $9\frac{1}{5} + 2\frac{5}{6} =$ _____ (mixed number)
24. $6\frac{7}{8} + 8\frac{8}{11} =$ _____ (mixed number)
25. $1\frac{5}{12} + 5\frac{1}{2} =$ _____ (mixed number)
26. $4\frac{3}{4} + 6\frac{1}{10} =$ _____ (mixed number)
27. $2\frac{2}{5} + 9\frac{5}{8} =$ _____ (mixed number)
28. $4\frac{3}{10} + 9\frac{1}{8} =$ _____ (mixed number)
29. $7\frac{5}{7} + 1\frac{1}{3} =$ _____ (mixed number)
30. $1\frac{3}{4} + 6\frac{3}{10} =$ _____ (mixed number)
31. $7\frac{9}{10} + 5\frac{1}{5} =$ _____ (mixed number)
32. $1\frac{2}{11} + 1\frac{4}{5} =$ _____ (mixed number)
33. $2\frac{1}{4} + 1\frac{3}{10} =$ _____ (mixed number)
34. $6\frac{1}{2} + 8\frac{2}{3} =$ _____ (mixed number)
35. $3\frac{7}{10} + 8\frac{5}{6} =$ _____ (mixed number)
36. $6\frac{1}{8} + 8\frac{1}{2} =$ _____ (mixed number)

73 Subtracting Mixed Numbers

1. $3\frac{11}{12} - 1\frac{5}{12} =$ _____ (mixed number)
2. $6\frac{4}{5} - 3\frac{1}{5} =$ _____ (mixed number)
3. $7\frac{1}{2} - 1\frac{1}{6} =$ _____ (mixed number)
4. $8\frac{3}{4} - 6\frac{1}{2} =$ _____ (mixed number)
5. $4\frac{7}{8} - 3\frac{1}{4} =$ _____ (mixed number)
6. $8\frac{7}{12} - 2\frac{1}{2} =$ _____ (mixed number)
7. $3\frac{1}{2} - 2\frac{1}{4} =$ _____ (mixed number).
8. $7\frac{4}{5} - 7\frac{1}{5} =$ _____ (fraction).
9. $5\frac{4}{11} - 2\frac{3}{7} =$ _____ (mixed number)
10. $6\frac{5}{6} - 2\frac{1}{11} =$ _____ (mixed number)
11. $6\frac{2}{3} - 2\frac{5}{8} =$ _____ (mixed number)
12. $6\frac{1}{8} - 5\frac{3}{8} =$ _____ (fraction).
13. $8\frac{8}{9} - 1\frac{7}{12} =$ _____ (mixed number)
14. $9\frac{3}{8} - 5\frac{1}{6} =$ _____ (mixed number)
15. $7\frac{8}{9} - 1\frac{1}{6} =$ _____ (mixed number)
16. $5\frac{4}{9} - 2\frac{1}{6} =$ _____ (mixed number)
17. $7\frac{5}{6} - 4\frac{3}{4} =$ _____ (mixed number)
18. $8\frac{1}{11} - 2\frac{5}{6} =$ _____ (mixed number)
19. $9\frac{7}{11} - 2\frac{1}{2} =$ _____ (mixed number)
20. $9\frac{7}{8} - 5\frac{5}{6} =$ _____ (mixed number)
21. $5\frac{8}{11} - 5\frac{1}{7} =$ _____ (fraction).
22. $8\frac{3}{10} - 3\frac{6}{7} =$ _____ (mixed number)
23. $8\frac{7}{12} - 1\frac{3}{4} =$ _____ (mixed number)
24. $5\frac{6}{7} - 3\frac{1}{12} =$ _____ (mixed number)
25. $9\frac{1}{4} - 5\frac{8}{9} =$ _____ (mixed number)
26. $8\frac{1}{7} - 7\frac{5}{8} =$ _____ (fraction).
27. $8\frac{3}{8} - 2\frac{1}{9} =$ _____ (mixed number)
28. $4\frac{4}{7} - 2\frac{8}{11} =$ _____ (mixed number)
29. $6\frac{2}{9} - 2\frac{5}{8} =$ _____ (mixed number)
30. $9\frac{3}{8} - 9\frac{3}{11} =$ _____ (fraction).
31. $8\frac{1}{7} - 7\frac{1}{4} =$ _____ (fraction).
32. $9\frac{3}{5} - 7\frac{5}{8} =$ _____ (mixed number)
33. $8\frac{4}{7} - 1\frac{9}{10} =$ _____ (mixed number)
34. $7\frac{1}{11} - 3\frac{2}{11} =$ _____ (mixed number)
35. $9\frac{5}{6} - 4\frac{11}{12} =$ _____ (mixed number)
36. $7\frac{1}{9} - 6\frac{1}{5} =$ _____ (fraction).

74 Multiplying Mixed Numbers

1. $2\frac{5}{8} \times 1\frac{3}{7} =$ _____ (mixed number)
2. $3\frac{1}{3} \times 2\frac{1}{3} =$ _____ (mixed number)
3. $2\frac{1}{4} \times 2\frac{1}{3} =$ _____ (mixed number)
4. $7\frac{1}{5} \times 9\frac{1}{3} =$ _____ (mixed number)
5. $1\frac{7}{8} \times 2\frac{3}{5} =$ _____ (mixed number)
6. $3\frac{3}{4} \times 4\frac{3}{5} =$ _____ (mixed number)
7. $3\frac{1}{2} \times 2\frac{3}{10} =$ _____ (mixed number)
8. $5\frac{1}{10} \times 6\frac{1}{3} =$ _____ (mixed number)
9. $1\frac{1}{12} \times 1\frac{1}{3} =$ _____ (mixed number)
10. $8\frac{1}{2} \times 3\frac{1}{2} =$ _____ (mixed number)
11. $3\frac{1}{7} \times 2\frac{1}{2} =$ _____ (mixed number)
12. $1\frac{1}{10} \times 3\frac{1}{2} =$ _____ (mixed number)
13. $3\frac{6}{7} \times 2\frac{1}{3} =$ _____
14. $1\frac{1}{7} \times 3\frac{1}{2} =$ _____
15. $1\frac{1}{5} \times 9\frac{1}{12} =$ _____ (mixed number)
16. $1\frac{5}{12} \times 7\frac{1}{3} =$ _____ (mixed number)
17. $3\frac{4}{5} \times 1\frac{1}{9} =$ _____ (mixed number)
18. $3\frac{3}{8} \times 3\frac{1}{9} =$ _____ (mixed number)
19. $2\frac{3}{8} \times 1\frac{1}{3} =$ _____ (mixed number)
20. $9\frac{3}{5} \times 2\frac{7}{12} =$ _____ (mixed number)
21. $3\frac{3}{4} \times 1\frac{7}{9} =$ _____ (mixed number)
22. $6\frac{3}{4} \times 3\frac{1}{3} =$ _____ (mixed number)
23. $3\frac{1}{2} \times 2\frac{3}{4} =$ _____ (mixed number)
24. $5\frac{2}{5} \times 4\frac{4}{9} =$ _____
25. $2\frac{1}{3} \times 4\frac{1}{4} =$ _____ (mixed number)
26. $7\frac{1}{2} \times 2\frac{5}{6} =$ _____ (mixed number)
27. $1\frac{1}{2} \times 6\frac{5}{9} =$ _____ (mixed number)
28. $2\frac{2}{3} \times 4\frac{5}{6} =$ _____ (mixed number)
29. $3\frac{7}{8} \times 1\frac{1}{3} =$ _____ (mixed number)
30. $7\frac{1}{4} \times 2\frac{2}{7} =$ _____ (mixed number)
31. $6\frac{2}{3} \times 4\frac{1}{4} =$ _____ (mixed number)
32. $1\frac{1}{6} \times 1\frac{1}{6} =$ _____ (mixed number)
33. $5\frac{1}{3} \times 4\frac{1}{2} =$ _____
34. $8\frac{1}{7} \times 1\frac{2}{3} =$ _____ (mixed number)
35. $15\frac{1}{2} \times 3\frac{1}{2} =$ _____ (mixed number)
36. $8\frac{1}{4} \times 4\frac{1}{4} =$ _____ (mixed number)

75 Dividing Mixed Numbers

1. $3\frac{1}{2} \div 1\frac{1}{2} =$ _____ (mixed number)
2. $16\frac{1}{2} \div 4\frac{1}{2} =$ _____ (mixed number)
3. $6\frac{7}{8} \div 5\frac{1}{2} =$ _____ (mixed number)
4. $23\frac{3}{8} \div 4\frac{1}{4} =$ _____ (mixed number)
5. $2\frac{19}{40} \div 1\frac{3}{8} =$ _____ (mixed number)
6. $8\frac{5}{9} \div 5\frac{1}{2} =$ _____ (mixed number)
7. $3\frac{35}{36} \div 2\frac{8}{9} =$ _____ (mixed number)
8. $44\frac{1}{10} \div 10\frac{1}{2} =$ _____ (mixed number)
9. $2\frac{11}{14} \div 1\frac{6}{7} =$ _____ (mixed number)
10. $8 \div 1\frac{1}{2} =$ _____ (mixed number)
11. $14\frac{7}{10} \div 4\frac{1}{5} =$ _____ (mixed number)
12. $30\frac{1}{12} \div 4\frac{3}{4} =$ _____ (mixed number)
13. $3\frac{7}{27} \div 1\frac{2}{9} =$ _____ (mixed number)
14. $4 \div 1\frac{2}{3} =$ _____ (mixed number)
15. $7\frac{4}{5} \div 7\frac{1}{5} =$ _____ (mixed number)
16. $5\frac{2}{3} \div 5\frac{1}{3} =$ _____ (mixed number)
17. $2\frac{2}{5} \div 2\frac{1}{5} =$ _____ (mixed number)
18. $10\frac{7}{8} \div 1\frac{1}{2} =$ _____ (mixed number)
19. $14\frac{2}{3} \div 4\frac{2}{5} =$ _____ (mixed number)
20. $4\frac{1}{2} \div 5\frac{1}{2} =$ _____ (mixed number)
21. $2\frac{2}{3} \div 3\frac{1}{3} =$ _____ (mixed number)
22. $1\frac{1}{2} \div 1\frac{1}{3} =$ _____ (mixed number)
23. $2\frac{2}{5} \div \frac{6}{7} =$ _____ (mixed number)
24. $11\frac{1}{7} \div 2\frac{4}{7} =$ _____ (mixed number)
25. $3\frac{11}{27} \div 1\frac{1}{3} =$ _____ (mixed number)
26. $3\frac{5}{12} \div 1\frac{1}{12} =$ _____ (mixed number)
27. $9\frac{6}{7} \div 2\frac{4}{7} =$ _____ (mixed number)
28. $1 \div \frac{5}{6} =$ _____ (mixed number)
29. $1 \div \frac{3}{11} =$ _____ (mixed number)
30. $4 \div \frac{5}{6} =$ _____ (mixed number)
31. $5 \div \frac{2}{3} =$ _____ (mixed number)
32. $12 \div 1\frac{1}{7} =$ _____ (mixed number)
33. $5\frac{3}{5} \div 3\frac{1}{5} =$ _____ (mixed number)
34. $13\frac{21}{32} \div 2\frac{7}{8} =$ _____ (mixed number)
35. $4\frac{13}{27} \div 3\frac{2}{3} =$ _____ (mixed number)
36. $7\frac{19}{27} \div 5\frac{1}{3} =$ _____ (mixed number)

76 Multiplying Mixed Numbers with Same Whole Number and Fractions Add to 1

1. $2\frac{2}{7} \times 2\frac{5}{7} =$ _____ (mixed number)
2. $6\frac{3}{5} \times 6\frac{2}{5} =$ _____ (mixed number)
3. $8\frac{9}{10} \times 8\frac{1}{10} =$ _____ (mixed number)
4. $6\frac{2}{5} \times 6\frac{3}{5} =$ _____ (mixed number)
5. $10\frac{6}{11} \times 10\frac{5}{11} =$ _____ (mixed number)
6. $8\frac{1}{3} \times 8\frac{2}{3} =$ _____ (mixed number)
7. $3\frac{4}{7} \times 3\frac{3}{7} =$ _____ (mixed number)
8. $1\frac{4}{9} \times 1\frac{5}{9} =$ _____ (mixed number)
9. $2\frac{5}{8} \times 2\frac{3}{8} =$ _____ (mixed number)
10. $3\frac{3}{4} \times 3\frac{1}{4} =$ _____ (mixed number)
11. $7\frac{1}{12} \times 7\frac{11}{12} =$ _____ (mixed number)
12. $8\frac{7}{9} \times 8\frac{2}{9} =$ _____ (mixed number)
13. $7\frac{2}{3} \times 7\frac{1}{3} =$ _____ (mixed number)
14. $4\frac{3}{5} \times 4\frac{2}{5} =$ _____ (mixed number)
15. $7\frac{1}{6} \times 7\frac{5}{6} =$ _____ (mixed number)
16. $8\frac{5}{8} \times 8\frac{3}{8} =$ _____ (mixed number)
17. $3\frac{4}{11} \times 3\frac{7}{11} =$ _____ (mixed number)
18. $5\frac{1}{12} \times 5\frac{11}{12} =$ _____ (mixed number)
19. $8\frac{5}{8} \times 8\frac{3}{8} =$ _____ (mixed number)
20. $5\frac{3}{10} \times 5\frac{7}{10} =$ _____ (mixed number)
21. $6\frac{9}{10} \times 6\frac{1}{10} =$ _____ (mixed number)
22. $11\frac{4}{5} \times 11\frac{1}{5} =$ _____ (mixed number)
23. $2\frac{2}{5} \times 2\frac{3}{5} =$ _____ (mixed number)
24. $11\frac{2}{5} \times 11\frac{3}{5} =$ _____ (mixed number)
25. $5\frac{1}{2} \times 5\frac{1}{2} =$ _____ (mixed number)
26. $7\frac{1}{6} \times 7\frac{5}{6} =$ _____ (mixed number)
27. $11\frac{5}{6} \times 11\frac{1}{6} =$ _____ (mixed number)
28. $6\frac{5}{9} \times 6\frac{4}{9} =$ _____ (mixed number)
29. $7\frac{10}{11} \times 7\frac{1}{11} =$ _____ (mixed number)
30. $4\frac{1}{10} \times 4\frac{9}{10} =$ _____ (mixed number)
31. $10\frac{2}{7} \times 10\frac{5}{7} =$ _____ (mixed number)
32. $6\frac{8}{9} \times 6\frac{1}{9} =$ _____ (mixed number)
33. $11\frac{7}{12} \times 11\frac{5}{12} =$ _____ (mixed number)
34. $9\frac{1}{4} \times 9\frac{3}{4} =$ _____ (mixed number)
35. $11\frac{1}{4} \times 11\frac{3}{4} =$ _____ (mixed number)
36. $9\frac{1}{4} \times 9\frac{3}{4} =$ _____ (mixed number)

77 Multiplying Mixed Numbers with Same Fraction and Whole Numbers Whose Sum is a Multiple of the Denominator

1. $8\frac{1}{2} \times 2\frac{1}{2} =$ _____ (mixed number)
2. $10\frac{5}{8} \times 6\frac{5}{8} =$ _____ (mixed number)
3. $6\frac{11}{12} \times 6\frac{11}{12} =$ _____ (mixed number)
4. $5\frac{6}{11} \times 6\frac{6}{11} =$ _____ (mixed number)
5. $5\frac{5}{8} \times 3\frac{5}{8} =$ _____ (mixed number)
6. $3\frac{3}{4} \times 9\frac{3}{4} =$ _____ (mixed number)
7. $4\frac{5}{12} \times 8\frac{5}{12} =$ _____ (mixed number)
8. $7\frac{3}{7} \times 7\frac{3}{7} =$ _____ (mixed number)
9. $10\frac{1}{12} \times 2\frac{1}{12} =$ _____ (mixed number)
10. $9\frac{2}{3} \times 6\frac{2}{3} =$ _____ (mixed number)
11. $5\frac{7}{10} \times 5\frac{7}{10} =$ _____ (mixed number)
12. $11\frac{3}{5} \times 4\frac{3}{5} =$ _____ (mixed number)
13. $6\frac{9}{10} \times 4\frac{9}{10} =$ _____ (mixed number)
14. $2\frac{7}{11} \times 9\frac{7}{11} =$ _____ (mixed number)
15. $2\frac{9}{10} \times 8\frac{9}{10} =$ _____ (mixed number)
16. $3\frac{5}{6} \times 9\frac{5}{6} =$ _____ (mixed number)
17. $11\frac{4}{5} \times 4\frac{4}{5} =$ _____ (mixed number)
18. $1\frac{1}{8} \times 15\frac{1}{8} =$ _____ (mixed number)
19. $1\frac{7}{11} \times 10\frac{7}{11} =$ _____ (mixed number)
20. $10\frac{6}{11} \times 1\frac{6}{11} =$ _____ (mixed number)
21. $9\frac{2}{5} \times 1\frac{2}{5} =$ _____ (mixed number)
22. $5\frac{3}{10} \times 5\frac{3}{10} =$ _____ (mixed number)
23. $11\frac{2}{7} \times 3\frac{2}{7} =$ _____ (mixed number)
24. $5\frac{5}{9} \times 4\frac{5}{9} =$ _____ (mixed number)
25. $1\frac{9}{10} \times 9\frac{9}{10} =$ _____ (mixed number)
26. $8\frac{6}{7} \times 6\frac{6}{7} =$ _____ (mixed number)
27. $1\frac{3}{8} \times 7\frac{3}{8} =$ _____ (mixed number)
28. $7\frac{8}{11} \times 4\frac{8}{11} =$ _____ (mixed number)
29. $5\frac{2}{5} \times 10\frac{2}{5} =$ _____ (mixed number)
30. $8\frac{1}{6} \times 4\frac{1}{6} =$ _____ (mixed number)
31. $10\frac{7}{9} \times 8\frac{7}{9} =$ _____ (mixed number)
32. $1\frac{4}{7} \times 6\frac{4}{7} =$ _____ (mixed number)
33. $11\frac{7}{8} \times 5\frac{7}{8} =$ _____ (mixed number)
34. $11\frac{9}{10} \times 9\frac{9}{10} =$ _____ (mixed number)
35. $3\frac{1}{6} \times 9\frac{1}{6} =$ _____ (mixed number)
36. $5\frac{6}{11} \times 6\frac{6}{11} =$ _____ (mixed number)

78 Ratios

1. 12 is to 4 as _____ is to 128
2. 3 is to 7 as 18 is to _____ .
3. 2 is to 13 as _____ is to 91
4. 6 is to 2 as _____ is to 24
5. 10 is to 7 as _____ is to 42
6. 13 is to 7 as _____ is to 49
7. 9 is to 5 as 36 is to _____ .
8. 5 is to 7 as 20 is to _____ .
9. 9 is to 8 as _____ is to 56
10. 15 is to 12 as _____ is to 144
11. 8 is to 11 as _____ is to 66
12. 9 is to 12 as 135 is to _____ .
13. 12 is to 14 as _____ is to 168
14. 2 is to 14 as _____ is to 140
15. 9 is to 2 as 18 is to _____ .
16. 13 is to 9 as 65 is to _____ .
17. 14 is to 10 as _____ is to 40
18. 11 is to 12 as _____ is to 36
19. 1 is to 7 as 3 is to _____ .
20. 4 is to 2 as _____ is to 12
21. 8 is to 10 as 64 is to _____ .
22. 2 is to 6 as _____ is to 72
23. 14 is to 5 as 42 is to _____ .
24. 11 is to 15 as _____ is to 90
25. 9 is to 3 as _____ is to 63
26. 8 is to 4 as _____ is to 112
27. 15 is to 11 as _____ is to 22
28. 2 is to 8 as _____ is to 32
29. 15 is to 8 as 60 is to _____ .
30. 5 is to 13 as 40 is to _____ .
31. 15 is to 4 as 30 is to _____ .
32. 9 is to 4 as 54 is to _____ .
33. 14 is to 2 as _____ is to 12
34. 11 is to 5 as 77 is to _____ .
35. 8 is to 10 as 80 is to _____ .
36. 3 is to 13 as 15 is to _____ .
37. 11 is to 13 as 55 is to _____ .
38. 9 is to 8 as 54 is to _____ .
39. 10 is to 4 as _____ is to 64
40. 7 is to 2 as _____ is to 8
41. 9 is to 4 as _____ is to 20
42. 9 is to 8 as 45 is to _____ .
43. 2 is to 8 as _____ is to 48
44. 8 is to 6 as 144 is to _____ .
45. 11 is to 15 as 33 is to _____ .
46. 14 is to 6 as _____ is to 48
47. 3 is to 7 as _____ is to 21
48. 7 is to 14 as 98 is to _____ .
49. 5 is to 3 as 10 is to _____ .
50. 6 is to 14 as 72 is to _____ .

79 Consumer Questions

1. If 24 flowers cost \$35.04, then $2\frac{1}{2}$ dozen flowers will cost \$ _____.
2. If 36 candies cost \$2.50, then $\frac{3}{4}$ dozen candies will cost \$ _____.
3. If 7 flowers cost \$32.13, then how much will 6 flowers cost? \$ _____.
4. If 8 cookies cost \$1.32, then 2 dozen cookies will cost \$ _____.
5. If 8 apples cost \$2.00, then 5 dozen apples will cost \$ _____.
6. If 6 bananas cost \$1.44, then 3 dozen bananas will cost \$ _____.
7. If 18 candies cost \$1.96, then 2 dozen candies will cost \$ _____.
8. If 14 sodas cost \$13.58, then how much will 2 sodas cost? \$ _____.
9. If 18 cookies cost \$2.59, then 5 dozen cookies will cost \$ _____.
10. If 6 apples cost \$2.16, then $\frac{3}{4}$ dozen apples will cost \$ _____.
11. If 9 cookies cost \$2.97, then how much will 14 cookies cost? \$ _____.
12. If 10 cookies cost \$3.70, then how much will 14 cookies cost? \$ _____.
13. If 12 bananas cost \$7.56, then how much will 2 bananas cost? \$ _____.
14. If 48 sodas cost \$15.18, then 3 dozen sodas will cost \$ _____.
15. If 6 flowers cost \$27.60, then how much will 2 flowers cost? \$ _____.
16. If 8 sodas cost \$7.68, then how much will 12 sodas cost? \$ _____.
17. If 3 flowers cost \$4.81, then $\frac{1}{2}$ dozen flowers will cost \$ _____.
18. If 60 cookies cost \$3.60, then $2\frac{1}{2}$ dozen cookies will cost \$ _____.
19. If 8 bananas cost \$3.92, then how much will 11 bananas cost? \$ _____.
20. If 2 candies cost \$0.40, then how much will 8 candies cost? \$ _____.
21. If 7 sodas cost \$8.12, then how much will 5 sodas cost? \$ _____.
22. If 10 candies cost \$2.90, then how much will 14 candies cost? \$ _____.
23. If 2 flowers cost \$0.00, then $\frac{2}{3}$ dozen flowers will cost \$ _____.
24. If 4 sodas cost \$2.94, then 2 dozen sodas will cost \$ _____.
25. If 8 apples cost \$2.84, then $\frac{1}{2}$ dozen apples will cost \$ _____.
26. If 36 bananas cost \$4.80, then $\frac{1}{4}$ dozen bananas will cost \$ _____.
27. If 2 cookies cost \$0.00, then 2 dozen cookies will cost \$ _____.
28. If 60 apples cost \$8.64, then $\frac{3}{4}$ dozen apples will cost \$ _____.
29. If 18 apples cost \$3.57, then 1 dozen apples will cost \$ _____.
30. If 14 cookies cost \$4.06, then how much will 9 cookies cost? \$ _____.
31. If 6 flowers cost \$27.60, then how much will 12 flowers cost? \$ _____.
32. If 60 cookies cost \$3.72, then $2\frac{1}{2}$ dozen cookies will cost \$ _____.

80 Square and Cubic Units

1. 0.6 square centimeters = _____ square decimeters.
2. 108 square feet = _____ square yards.
3. 5184 cubic inches = _____ cubic feet.
4. 1920 acres = _____ square miles.
5. 99 square feet = _____ square yards.
6. 7 square yards = _____ square feet.
7. 9 square miles = _____ acres.
8. 18 square feet = _____ square yards.
9. 2 square yards = _____ square feet.
10. 1.19 square dekameters = _____ square kilometers.
11. 11 square feet = _____ square inches.
12. 297 cubic yards = _____ cubic feet.
13. 864 square inches = _____ square feet.
14. 27 square feet = _____ square yards.
15. 1440 square inches = _____ square feet.
16. 5 cubic yards = _____ cubic feet.
17. 10 cubic feet = _____ cubic inches.
18. 2 cubic yards = _____ cubic feet.
19. 15 cubic decimeters = _____ cubic meters.
20. 189 cubic yards = _____ cubic feet.
21. 15552 cubic inches = _____ cubic feet.
22. 216 cubic yards = _____ cubic feet.
23. 10 cubic feet = _____ cubic inches.
24. 73 cubic meters = _____ cubic centimeters.
25. 3200 acres = _____ square miles.
26. 24.8 cubic kilograms = _____ cubic hectograms.
27. 10 square miles = _____ acres.
28. 18 square feet = _____ square yards.
29. 5760 acres = _____ square miles.
30. 9 square miles = _____ acres.
31. 75 cubic dekagrams = _____ cubic kilograms.
32. 4 cubic feet = _____ cubic inches.
33. 10 cubic feet = _____ cubic inches.
34. 5760 acres = _____ square miles.
35. 127 cubic kilograms = _____ cubic dekagrams.
36. 11 square miles = _____ acres.
37. 7680 acres = _____ square miles.
38. 134 square hectograms = _____ square kilograms.
39. 935 square kilometers = _____ square dekameters.
40. 8.29 cubic hectoliters = _____ cubic dekaliters.
41. 4 square miles = _____ acres.
42. 5760 acres = _____ square miles.
43. 72 square feet = _____ square yards.
44. 189 cubic yards = _____ cubic feet.
45. 72 square feet = _____ square yards.
46. 10 cubic feet = _____ cubic inches.
47. 17280 cubic inches = _____ cubic feet.
48. 8.06 cubic centimeters = _____ cubic millimeters.
49. 81 cubic yards = _____ cubic feet.
50. 4 square feet = _____ square inches.

81 Multiplication by 101

1. $61 \times 101 =$ _____ .
2. $32 \times 101 =$ _____ .
3. $85 \times 101 =$ _____ .
4. $101 \times 43 =$ _____ .
5. $15 \times 101 =$ _____ .
6. $79 \times 101 =$ _____ .
7. $101 \times 86 =$ _____ .
8. $101 \times 22 =$ _____ .
9. $58 \times 101 =$ _____ .
10. $550 \times 101 =$ _____ .
11. $101 \times 642 =$ _____ .
12. $101 \times 15 =$ _____ .
13. $144 \times 101 =$ _____ .
14. $101 \times 761 =$ _____ .
15. $101 \times 863 =$ _____ .
16. $900 \times 101 =$ _____ .
17. $891 \times 101 =$ _____ .
18. $101 \times 593 =$ _____ .
19. $942 \times 101 =$ _____ .
20. $684 \times 101 =$ _____ .
21. $600 \times 101 =$ _____ .
22. $101 \times 527 =$ _____ .
23. $101 \times 653 =$ _____ .
24. $101 \times 837 =$ _____ .
25. $101 \times 298 =$ _____ .
26. $650 \times 101 =$ _____ .
27. $101 \times 492 =$ _____ .
28. $481 \times 101 =$ _____ .
29. $101 \times 888 =$ _____ .
30. $101 \times 231 =$ _____ .
31. $101 \times 859 =$ _____ .
32. $101 \times 100 =$ _____ .
33. $230 \times 101 =$ _____ .
34. $101 \times 239 =$ _____ .
35. $163 \times 101 =$ _____ .
36. $20 \times 101 =$ _____ .
37. $101 \times 819 =$ _____ .
38. $767 \times 101 =$ _____ .
39. $395 \times 101 =$ _____ .
40. $452 \times 101 =$ _____ .
41. $101 \times 305 =$ _____ .
42. $101 \times 379 =$ _____ .
43. $101 \times 282 =$ _____ .
44. $813 \times 101 =$ _____ .
45. $101 \times 353 =$ _____ .
46. $610 \times 101 =$ _____ .
47. $101 \times 500 =$ _____ .
48. $167 \times 101 =$ _____ .
49. $830 \times 101 =$ _____ .
50. $285 \times 101 =$ _____ .

82 Multiplication by 111

1. $72 \times 111 =$ _____ .
2. $111 \times 32 =$ _____ .
3. $111 \times 53 =$ _____ .
4. $31 \times 111 =$ _____ .
5. $36 \times 111 =$ _____ .
6. $111 \times 42 =$ _____ .
7. $74 \times 111 =$ _____ .
8. $16 \times 111 =$ _____ .
9. $111 \times 514 =$ _____ .
10. $111 \times 997 =$ _____ .
11. $111 \times 976 =$ _____ .
12. $328 \times 111 =$ _____ .
13. $53 \times 111 =$ _____ .
14. $727 \times 111 =$ _____ .
15. $839 \times 111 =$ _____ .
16. $198 \times 111 =$ _____ .
17. $987 \times 111 =$ _____ .
18. $812 \times 111 =$ _____ .
19. $918 \times 111 =$ _____ .
20. $111 \times 802 =$ _____ .
21. $347 \times 111 =$ _____ .
22. $777 \times 111 =$ _____ .
23. $813 \times 111 =$ _____ .
24. $784 \times 111 =$ _____ .
25. $111 \times 843 =$ _____ .
26. $982 \times 111 =$ _____ .
27. $505 \times 111 =$ _____ .
28. $111 \times 311 =$ _____ .
29. $653 \times 111 =$ _____ .
30. $193 \times 111 =$ _____ .
31. $111 \times 302 =$ _____ .
32. $196 \times 111 =$ _____ .
33. $111 \times 271 =$ _____ .
34. $442 \times 111 =$ _____ .
35. $111 \times 397 =$ _____ .
36. $529 \times 111 =$ _____ .
37. $111 \times 166 =$ _____ .
38. $111 \times 936 =$ _____ .
39. $111 \times 574 =$ _____ .
40. $111 \times 788 =$ _____ .
41. $111 \times 413 =$ _____ .
42. $521 \times 111 =$ _____ .
43. $111 \times 758 =$ _____ .
44. $111 \times 866 =$ _____ .
45. $755 \times 111 =$ _____ .
46. $111 \times 293 =$ _____ .
47. $161 \times 111 =$ _____ .
48. $111 \times 55 =$ _____ .
49. $111 \times 163 =$ _____ .
50. $226 \times 111 =$ _____ .

83 Multiplication by 125

1. $32 \times 125 =$ _____ .
2. $125 \times 15 =$ _____ .
3. $125 \times 72 =$ _____ .
4. $33 \times 125 =$ _____ .
5. $69 \times 125 =$ _____ .
6. $13 \times 125 =$ _____ .
7. $46 \times 125 =$ _____ .
8. $81 \times 125 =$ _____ .
9. $125 \times 76 =$ _____ .
10. $125 \times 24 =$ _____ .
11. $96 \times 125 =$ _____ .
12. $25 \times 125 =$ _____ .
13. $82 \times 125 =$ _____ .
14. $28 \times 125 =$ _____ .
15. $172 \times 125 =$ _____ .
16. $536 \times 125 =$ _____ .
17. $125 \times 601 =$ _____ .
18. $125 \times 707 =$ _____ .
19. $125 \times 312 =$ _____ .
20. $125 \times 153 =$ _____ .
21. $125 \times 793 =$ _____ .
22. $125 \times 480 =$ _____ .
23. $125 \times 184 =$ _____ .
24. $125 \times 135 =$ _____ .
25. $412 \times 125 =$ _____ .
26. $602 \times 125 =$ _____ .
27. $251 \times 125 =$ _____ .
28. $125 \times 804 =$ _____ .
29. $998 \times 125 =$ _____ .
30. $125 \times 446 =$ _____ .
31. $871 \times 125 =$ _____ .
32. $139 \times 125 =$ _____ .
33. $609 \times 125 =$ _____ .
34. $125 \times 551 =$ _____ .
35. $125 \times 639 =$ _____ .
36. $125 \times 925 =$ _____ .
37. $125 \times 367 =$ _____ .
38. $837 \times 125 =$ _____ .
39. $547 \times 125 =$ _____ .
40. $441 \times 125 =$ _____ .
41. $132 \times 125 =$ _____ .
42. $125 \times 950 =$ _____ .
43. $125 \times 919 =$ _____ .
44. $125 \times 159 =$ _____ .
45. $125 \times 985 =$ _____ .
46. $345 \times 125 =$ _____ .
47. $125 \times 562 =$ _____ .
48. $130 \times 125 =$ _____ .
49. $125 \times 278 =$ _____ .
50. $156 \times 125 =$ _____ .

84 Square Roots

1. The square root of 6×24 is _____.
2. The square root of 3×108 is _____.
3. $\sqrt{841} =$ _____.
4. The square root of 7×63 is _____.
5. $\sqrt{169} =$ _____.
6. $\sqrt{256} =$ _____.
7. $\sqrt{441} =$ _____.
8. The square root of 2×50 is _____.
9. $\sqrt{4} =$ _____.
10. The square root of 2×128 is _____.
11. $\sqrt{576} =$ _____.
12. The square root of 3×48 is _____.
13. $\sqrt{484} =$ _____.
14. $\sqrt{9} =$ _____.
15. $\sqrt{784} =$ _____.
16. The square root of 6×96 is _____.
17. $\sqrt{529} =$ _____.
18. $\sqrt{225} =$ _____.
19. $\sqrt{(41)^2} =$ _____.
20. $\sqrt{289} =$ _____.
21. The square root of 4×36 is _____.
22. The square root of 3×27 is _____.
23. $\sqrt{576} =$ _____.
24. $\sqrt{729} =$ _____.
25. The square root of 3×108 is _____.
26. $\sqrt{289} =$ _____.
27. The square root of 2×98 is _____.
28. $\sqrt{64} =$ _____.
29. The square root of 5×20 is _____.
30. The square root of 2×50 is _____.
31. The square root of 11×44 is _____.
32. $\sqrt{64} =$ _____.
33. The square root of 4×16 is _____.
34. $\sqrt{196} =$ _____.
35. The square root of 4×36 is _____.
36. $\sqrt{4} =$ _____.
37. The square root of 11×44 is _____.
38. $\sqrt{81} =$ _____.
39. The square root of 6×54 is _____.
40. $\sqrt{64} =$ _____.
41. $\sqrt{2500} =$ _____.
42. The square root of $15 \times 20 \times 3$ is _____.
43. $\sqrt{9} =$ _____.
44. $\sqrt{289} =$ _____.
45. The square root of 5×125 is _____.
46. $\sqrt{400} =$ _____.
47. The square root of 2×50 is _____.
48. The square root of 3×27 is _____.
49. $\sqrt{4^2 + 3^2} =$ _____.
50. $\sqrt{5^2 + 12^2} =$ _____.

85 Cube Roots

1. $\sqrt[3]{216} =$ _____.
2. $\sqrt[3]{27} =$ _____.
3. The cube root of 2×500 is _____.
4. $\sqrt[3]{512} =$ _____.
5. The cube root of 4×128 is _____.
6. The cube root of 3×576 is _____.
7. The cube root of 5×675 is _____.
8. $\sqrt[3]{125} =$ _____.
9. The cube root of 2×500 is _____.
10. $\sqrt[3]{1728} =$ _____.
11. The cube root of 2×256 is _____.
12. The cube root of 7×392 is _____.
13. The cube root of 2×256 is _____.
14. $\sqrt[3]{27} =$ _____.
15. The cube root of 2×864 is _____.
16. $\sqrt[3]{216} =$ _____.
17. The cube root of 7×392 is _____.
18. $\sqrt[3]{729} =$ _____.
19. The cube root of 3×72 is _____.
20. $\sqrt[3]{512} =$ _____.
21. The cube root of 2×108 is _____.
22. The cube root of 5×200 is _____.
23. The cube root of 3×243 is _____.
24. $\sqrt[3]{27} =$ _____.
25. $\sqrt[3]{1} =$ _____.
26. $\sqrt[3]{512} =$ _____.
27. The cube root of 3×576 is _____.
28. $\sqrt[3]{125} =$ _____.
29. The cube root of 3×1125 is _____.
30. The cube root of 3×243 is _____.
31. The cube root of 2×32 is _____.
32. $\sqrt[3]{27} =$ _____.
33. $\sqrt[3]{216} =$ _____.
34. The cube root of 2×32 is _____.
35. The cube root of 2×108 is _____.
36. $\sqrt[3]{1728} =$ _____.
37. $\sqrt[3]{1331} =$ _____.
38. $\sqrt[3]{512} =$ _____.
39. $\sqrt[3]{1000} =$ _____.
40. $\sqrt[3]{8} =$ _____.
41. $\sqrt[3]{216} =$ _____.
42. $\sqrt[3]{1} =$ _____.
43. The cube root of 6×288 is _____.
44. The cube root of 3×72 is _____.
45. $\sqrt[3]{8} =$ _____.
46. $\sqrt[3]{125} =$ _____.
47. $\sqrt[3]{1} =$ _____.
48. $\sqrt[3]{729} =$ _____.
49. The cube root of 5×675 is _____.
50. $\sqrt[3]{216} =$ _____.

86 Percent Problems

1. What percent of 55 is 11? _____ %.
2. 15 is _____ % of 135.
3. 30% of 60 is _____ .
4. 100 is _____ % of 120.
5. What percent of 144 is 128? _____ %.
6. 119 is _____ % of 170.
7. What percent of 99 is 44? _____ %.
8. What percent of 40 is 35? _____ %.
9. What percent of 32 is 24? _____ %.
10. 50 is _____ % of 70.
11. 18 is _____ % of 180.
12. 75% of 72 is _____ .
13. 3 is _____ % of 9.
14. What percent of 20 is 16? _____ %.
15. 16 is _____ % of 160.
16. 72 is _____ % of 126.
17. $87\frac{1}{2}\%$ of 64 is _____ .
18. What percent of 120 is 15? _____ %.
19. 162 is _____ % of 180.
20. 2 is _____ % of 4.
21. 9 is _____ % of 24.
22. $85\frac{5}{7}\%$ of 28 is _____ .
23. $55\frac{5}{9}\%$ of 63 is _____ .
24. $62\frac{1}{2}\%$ of 40 is _____ .
25. 100 is _____ % of 180.
26. What percent of 15 is 9? _____ %.
27. $14\frac{2}{7}\%$ of 35 is _____ .
28. $83\frac{1}{3}\%$ of 12 is _____ .
29. 28 is _____ % of 126.
30. 10 is _____ % of 30.
31. 36 is _____ % of 40.
32. 50% of 8 is _____ .
33. 24 is _____ % of 30.
34. 8 is _____ % of 64.
35. 10% of 90 is _____ .
36. 30 is _____ % of 36.
37. 18 is _____ % of 24.
38. What percent of 40 is 30? _____ %.
39. $33\frac{1}{3}\%$ of 63 is _____ .
40. What percent of 91 is 78? _____ %.
41. What percent of 15 is 3? _____ %.
42. 7 is _____ % of 14.
43. 3 is _____ % of 24.
44. 24 is _____ % of 27.
45. $11\frac{1}{9}\%$ of 18 is _____ .
46. What percent of 120 is 36? _____ %.
47. 119 is _____ % of 170.
48. 42 is _____ % of 140.
49. 38 is _____ % of 57.
50. 20 is _____ % of 24.

87 Interest and Taxes

1. The simple annual interest on \$1250 for 6 years at 5% is \$ _____.
2. The simple annual interest on \$1500 for 10 years at 12% is \$ _____.
3. The simple annual interest on \$400 for 10 years at 6% is \$ _____.
4. The simple annual interest on \$1500 for 2 years at 8% is \$ _____.
5. The simple annual interest on \$150 for 7 years at 5% is \$ _____.
6. The simple annual interest on \$1100 for 2 years at 6% is \$ _____.
7. The simple annual interest on \$1500 for 2 years at 2% is \$ _____.
8. The simple annual interest on \$300 for 5 years at 3% is \$ _____.
9. The simple annual interest on \$450 for 8 years at 5% is \$ _____.
10. The simple annual interest on \$500 for 6 years at 11% is \$ _____.
11. The simple annual interest on \$350 for 5 years at 9% is \$ _____.
12. The simple annual interest on \$800 for 6 years at 9% is \$ _____.
13. The simple annual interest on \$850 for 3 years at 5% is \$ _____.
14. The simple annual interest on \$1200 for 3 years at 10% is \$ _____.
15. The simple annual interest on \$1100 for 9 years at 9% is \$ _____.
16. The simple annual interest on \$200 for 10 years at 5% is \$ _____.
17. The simple annual interest on \$800 for 4 years at 10% is \$ _____.
18. What is the sales tax on \$70.00 when the tax rate is 8%? \$ _____.
19. What is the sales tax on \$115.00 when the tax rate is 5%? \$ _____.
20. What is the sales tax on \$85.00 when the tax rate is 2%? \$ _____.
21. What is the sales tax on \$10.00 when the tax rate is 4%? \$ _____.
22. What is the sales tax on \$50.00 when the tax rate is 7%? \$ _____.
23. What is the sales tax on \$105.00 when the tax rate is 7%? \$ _____.
24. What is the sales tax on \$145.00 when the tax rate is 2%? \$ _____.
25. What is the sales tax on \$40.00 when the tax rate is 6%? \$ _____.
26. What is the sales tax on \$115.00 when the tax rate is 4%? \$ _____.
27. What is the sales tax on \$95.00 when the tax rate is 2%? \$ _____.
28. What is the sales tax on \$95.00 when the tax rate is 5%? \$ _____.
29. What is the sales tax on \$95.00 when the tax rate is 3%? \$ _____.
30. What is the sales tax on \$100.00 when the tax rate is 8%? \$ _____.
31. What is the sales tax on \$150.00 when the tax rate is 5%? \$ _____.
32. What is the sales tax on \$140.00 when the tax rate is 2%? \$ _____.
33. What is the sales tax on \$30.00 when the tax rate is 2%? \$ _____.
34. What is the sales tax on \$85.00 when the tax rate is 3%? \$ _____.

88 Distributive Property

1. $92 \times 40 + 92 \times 40 =$ _____ .
2. $89 \times 30 + 89 \times 60 =$ _____ .
3. $59 \times 21 + 59 \times 29 =$ _____ .
4. $22 \times 30 + 22 \times 10 =$ _____ .
5. $83 \times 60 + 83 \times 20 =$ _____ .
6. $66 \times 46 + 66 \times 24 =$ _____ .
7. $94 \times 59 + 94 \times 41 =$ _____ .
8. $90 \times 77 + 90 \times 13 =$ _____ .
9. $46 \times 69 + 46 \times 21 =$ _____ .
10. $45 \times 47 + 45 \times 13 =$ _____ .
11. $65 \times 29 + 65 \times 31 =$ _____ .
12. $95 \times 11 + 95 \times 49 =$ _____ .
13. $97 \times 34 + 97 \times 36 =$ _____ .
14. $26 \times 48 + 26 \times 42 =$ _____ .
15. $40 \times 40 + 40 \times 20 =$ _____ .
16. $67 \times 13 + 67 \times 27 =$ _____ .
17. $76 \times 28 + 76 \times 32 =$ _____ .
18. $69 \times 33 + 69 \times 27 =$ _____ .
19. $80 \times 22 + 80 \times 58 =$ _____ .
20. $23 \times 24 + 23 \times 26 =$ _____ .
21. $83 \times 52 + 83 \times 8 =$ _____ .
22. $21 \times 15 + 21 \times 55 =$ _____ .
23. $53 \times 7 + 53 \times 93 =$ _____ .
24. $88 \times 23 + 88 \times 37 =$ _____ .
25. $68 \times 25 + 68 \times 5 =$ _____ .
26. $78 \times 11 + 78 \times 19 =$ _____ .
27. $23 \times 48 + 23 \times 42 =$ _____ .
28. $47 \times 20 + 47 \times 30 =$ _____ .
29. $22 \times 40 + 22 \times 30 =$ _____ .
30. $53 \times 54 + 53 \times 46 =$ _____ .
31. $76 \times 49 + 76 \times 51 =$ _____ .
32. $76 \times 5 + 76 \times 35 =$ _____ .
33. $67 \times 14 + 67 \times 66 =$ _____ .
34. $91 \times 4 + 91 \times 36 =$ _____ .
35. $71 \times 7 + 71 \times 23 =$ _____ .
36. $78 \times 43 + 78 \times 47 =$ _____ .
37. $46 \times 19 + 46 \times 51 =$ _____ .
38. $84 \times 7 + 84 \times 23 =$ _____ .
39. $98 \times 21 + 98 \times 9 =$ _____ .
40. $29 \times 17 + 29 \times 23 =$ _____ .
41. $50 \times 18 + 50 \times 22 =$ _____ .
42. $44 \times 26 + 44 \times 4 =$ _____ .
43. $43 \times 24 + 43 \times 6 =$ _____ .
44. $40 \times 93 + 40 \times 7 =$ _____ .
45. $97 \times 23 + 97 \times 67 =$ _____ .
46. $45 \times 44 + 45 \times 6 =$ _____ .
47. $86 \times 13 + 86 \times 17 =$ _____ .
48. $97 \times 16 + 97 \times 24 =$ _____ .
49. $45 \times 36 + 45 \times 64 =$ _____ .
50. $80 \times 47 + 80 \times 13 =$ _____ .

89 Polygons

1. How many sides does a nonagon have? _____.
2. How many sides does a parallelogram have?
_____.
3. How many sides does a quadrilateral have? _____.
4. How many sides does a square have? _____.
5. How many sides does a rhombus have? _____.
6. How many sides does a heptagon have? _____.
7. How many sides does a pentagon have? _____.
8. How many sides does a triangle have? _____.
9. How many sides does an octagon have? _____.
10. How many sides does a heptagon have? _____.
11. How many sides does a nonagon have? _____.
12. How many sides does a septagon have? _____.
13. How many sides does a decagon have? _____.
14. How many sides does an octagon have? _____.
15. How many sides does a square have? _____.
16. How many sides does a parallelogram have?
_____.
17. How many sides does a nonagon have? _____.
18. How many sides does a trapezoid have? _____.
19. How many sides does a triangle have? _____.
20. How many sides does a trapezoid have? _____.

90 Perimeter of Regular Polygons

1. What is the perimeter of a regular pentagon whose sides measure 13 cm? _____ cm.
2. What is the perimeter of a regular septagon whose sides measure 20 cm? _____ cm.
3. What is the perimeter of a regular heptagon whose sides measure 6 cm? _____ cm.
4. What is the perimeter of a regular octagon whose sides measure 16 cm? _____ cm.
5. What is the perimeter of a regular nonagon whose sides measure 5 cm? _____ cm.
6. What is the perimeter of a square whose sides measure 5 cm? _____ cm.
7. What is the perimeter of a regular decagon whose sides measure 15 cm? _____ cm.
8. What is the perimeter of a regular nonagon whose sides measure 14 cm? _____ cm.
9. What is the perimeter of a regular decagon whose sides measure 11 cm? _____ cm.
10. What is the perimeter of a regular septagon whose sides measure 10 cm? _____ cm.
11. What is the perimeter of a regular heptagon whose sides measure 9 cm? _____ cm.
12. What is the perimeter of a regular pentagon whose sides measure 11 cm? _____ cm.
13. What is the perimeter of an equilateral triangle whose sides measure 7 cm? _____ cm.
14. What is the perimeter of a regular hexagon whose sides measure 3 cm? _____ cm.
15. What is the perimeter of an equilateral triangle whose sides measure $\frac{2}{5}$ cm? _____ cm.
16. What is the perimeter of a square whose sides measure $2\frac{1}{4}$ cm? _____ cm.
17. What is the perimeter of a regular decagon whose sides measure 5.2 cm? _____ cm.
18. What is the perimeter of a regular pentagon whose sides measure $6\frac{2}{5}$ cm? _____ cm.

91 Interior and Exterior Angles

1. What is the sum of the exterior angles of a regular pentagon? _____ degrees.
2. What is the sum of the exterior angles of a square? _____ degrees.
3. What is the sum of the exterior angles of a regular hexagon? _____ degrees.
4. What is the sum of the interior angles of a regular heptagon? _____ degrees.
5. What is the sum of the interior angles of a square? _____ degrees.
6. What is the sum of the exterior angles of an equilateral triangle? _____ degrees.
7. What is the sum of the exterior angles of a regular hexagon? _____ degrees.
8. What is the measure of each exterior angle of a regular hexagon? _____ degrees.
9. What is the measure of each exterior angle of a regular hexagon? _____ degrees.
10. What is the sum of the interior angles of a square? _____ degrees.
11. What is the sum of the interior angles of an equilateral triangle? _____ degrees.
12. What is the measure of each interior angle of a regular hexagon? _____ degrees.
13. What is the measure of each exterior angle of a regular octagon? _____ degrees.
14. What is the sum of the exterior angles of a regular septagon? _____ degrees.
15. What is the sum of the exterior angles of a regular septagon? _____ degrees.
16. What is the sum of the interior angles of a regular septagon? _____ degrees.
17. What is the sum of the exterior angles of a regular hexagon? _____ degrees.
18. What is the measure of each exterior angle of an equilateral triangle? _____ degrees.

92 Angles of a Triangle

1. The angles of a triangle are 90° , 20° , and _____ $^\circ$.
2. The angles of a triangle are 60° , 110° , and _____ $^\circ$.
3. The angles of a triangle are 52° , 116° , and _____ $^\circ$.
4. The angles of a triangle are 79° , 87° , and _____ $^\circ$.
5. The angles of a triangle are 4° , 68° , and _____ $^\circ$.
6. The angles of a triangle are 99° , 44° , and _____ $^\circ$.
7. The angles of a triangle are 125° , 33° , and _____ $^\circ$.
8. The angles of a triangle are 67° , 98° , and _____ $^\circ$.
9. The angles of a triangle are 88° , 55° , and _____ $^\circ$.
10. The angles of a triangle are 27° , 22° , and _____ $^\circ$.
11. The angles of a triangle are 151° , 11° , and _____ $^\circ$.
12. The angles of a triangle are 159° , 6° , and _____ $^\circ$.
13. The angles of a triangle are 14° , 40° , and _____ $^\circ$.
14. The angles of a triangle are 45° , 65° , and _____ $^\circ$.
15. The angles of a triangle are 109° , 60° , and _____ $^\circ$.
16. The angles of a triangle are 62° , 16° , and _____ $^\circ$.
17. The angles of a triangle are 6° , 73° , and _____ $^\circ$.
18. The angles of a triangle are 148° , 17° , and _____ $^\circ$.
19. The angles of a triangle are 117° , 26° , and _____ $^\circ$.
20. The angles of a triangle are 60° , 97° , and _____ $^\circ$.

93 Angles of a Right Triangle

1. The acute angles of a right triangle are 36° and _____ $^\circ$.
2. The acute angles of a right triangle are 1° and _____ $^\circ$.
3. The acute angles of a right triangle are 33° and _____ $^\circ$.
4. The acute angles of a right triangle are 77° and _____ $^\circ$.
5. The acute angles of a right triangle are 74° and _____ $^\circ$.
6. The acute angles of a right triangle are 14° and _____ $^\circ$.
7. How many acute angles does a right triangle have? _____.
8. The acute angles of a right triangle are 55° and _____ $^\circ$.
9. How many obtuse angles does a right triangle have? _____.
10. The acute angles of a right triangle are 47° and _____ $^\circ$.
11. The acute angles of a right triangle are 80° and _____ $^\circ$.
12. The acute angles of a right triangle are 67° and _____ $^\circ$.

94 Area of a Right Triangle

1. What is the area of the right triangle whose legs are 3 and 10? _____.
2. What is the area of the right triangle whose legs are 8 and 14? _____.
3. What is the area of the right triangle whose legs are 7 and 7? _____.
4. What is the area of the right triangle whose legs are 11 and 7? _____.
5. What is the area of the right triangle whose legs are 6 and 2? _____.
6. What is the area of the right triangle whose legs are 10 and 6? _____.
7. What is the area of the right triangle whose legs are 12 and 13? _____.
8. What is the area of the right triangle whose legs are 11 and 14? _____.
9. What is the area of the right triangle whose legs are 5 and 12? _____.
10. What is the area of the right triangle whose legs are 7 and 12? _____.
11. What is the area of the right triangle whose legs are 4 and 10? _____.
12. What is the area of the right triangle whose legs are 5 and 12? _____.
13. What is the area of the right triangle whose legs are 3 and 11? _____.
14. What is the area of the right triangle whose legs are 8 and 3? _____.
15. What is the area of the right triangle whose legs are 9 and 14? _____.
16. What is the area of the right triangle whose legs are 12 and 9? _____.
17. What is the area of the right triangle whose legs are 3 and 6? _____.
18. What is the area of the right triangle whose legs are 12 and 12? _____.
19. What is the area of the right triangle whose legs are 7 and 8? _____.
20. What is the area of the right triangle whose legs are 5 and 7? _____.

95 Pythagorean Theorem

1. Find the perimeter of the right triangle whose legs are 12 and 9. _____.
2. The legs of a right triangle are 48 and 14. What is the length of its hypotenuse? _____.
3. Find the area of the right triangle with leg 18 and hypotenuse 82. _____.
4. Find the perimeter of the right triangle whose legs are 9 and 40. _____.
5. Find the perimeter of the right triangle whose legs are 8 and 15. _____.
6. Find the area of the right triangle with leg 80 and hypotenuse 82. _____.
7. The legs of a right triangle are 9 and 40. What is the length of its hypotenuse? _____.
8. Find the area of the right triangle with leg 9 and hypotenuse 15. _____.
9. Find the perimeter of the right triangle whose legs are 4 and 3. _____.
10. Find the area of the right triangle with leg 9 and hypotenuse 41. _____.
11. Find the area of the right triangle with leg 24 and hypotenuse 25. _____.
12. Find the area of the right triangle with leg 5 and hypotenuse 13. _____.
13. The hypotenuse of a right triangle is 26 and one of its legs is 10. What is the length of the other leg? _____.
14. The hypotenuse of a right triangle is 13 and one of its legs is 5. What is the length of the other leg? _____.
15. Find the area of the right triangle with leg 24 and hypotenuse 51. _____.
16. Find the perimeter of the right triangle with leg 12 and hypotenuse 13. _____.
17. Find the perimeter of the right triangle whose legs are 3 and 4. _____.
18. Find the area of the right triangle with leg 80 and hypotenuse 82. _____.
19. The hypotenuse of a right triangle is 41 and one of its legs is 9. What is the length of the other leg? _____.
20. The legs of a right triangle are 12 and 5. What is the length of its hypotenuse? _____.
21. Find the area of the right triangle with leg 5 and hypotenuse 13. _____.
22. Find the perimeter of the right triangle whose legs are 15 and 8. _____.
23. The hypotenuse of a right triangle is 26 and one of its legs is 10. What is the length of the other leg? _____.
24. Find the area of the right triangle with leg 8 and hypotenuse 17. _____.
25. The hypotenuse of a right triangle is 5 and one of its legs is 3. What is the length of the other leg? _____.
26. Find the perimeter of the right triangle whose legs are 24 and 45. _____.
27. The legs of a right triangle are 8 and 15. What is the length of its hypotenuse? _____.
28. Find the perimeter of the right triangle whose legs are 45 and 24. _____.
29. Find the perimeter of the right triangle with leg 3 and hypotenuse 5. _____.
30. Find the perimeter of the right triangle with leg 8 and hypotenuse 10. _____.

96 Squares (polygon)

1. What is the perimeter of a square whose sides measure 7? _____.
2. What is the perimeter of a square whose sides measure 8? _____.
3. What is the perimeter of a square whose sides measure 11? _____.
4. What is the perimeter of a square whose sides measure 19? _____.
5. What is the side of a square whose area measures 400? _____.
6. What is the side of a square whose perimeter measures 16? _____.
7. What is the side of a square whose perimeter measures 56? _____.
8. What is the side of a square whose area measures 36? _____.
9. What is the side of a square whose area measures 49? _____.
10. What is the perimeter of a square whose sides measure 13? _____.
11. What is the side of a square whose perimeter measures 88? _____.
12. What is the side of a square whose perimeter measures 64? _____.
13. What is the area of a square whose sides measure 15? _____.
14. What is the side of a square whose perimeter measures 40? _____.
15. What is the perimeter of a square whose sides measure 15? _____.
16. What is the area of a square whose sides measure 12? _____.

97 Rectangles

1. What is the width of a rectangle whose length is 10 and perimeter is 26? _____.
2. What is the perimeter of a rectangle whose length is 8 and width is 4? _____.
3. What is the perimeter of a rectangle whose length is 20 and width is 1? _____.
4. What is the perimeter of a rectangle whose length is 21 and width is 5? _____.
5. What is the area of a rectangle whose length is 25 and width is 8? _____.
6. What is the width of a rectangle whose length is 10 and perimeter is 38? _____.
7. What is the perimeter of a rectangle whose length is 22 and width is 5? _____.
8. What is the perimeter of a rectangle whose length is 9 and width is 5? _____.
9. What is the area of a rectangle whose length is 11 and width is 3? _____.
10. What is the length of a rectangle whose area is 130 and width is 10? _____.
11. What is the width of a rectangle whose length is 7 and perimeter is 24? _____.
12. What is the length of a rectangle whose area is 165 and width is 11? _____.
13. What is the width of a rectangle whose length is 5 and perimeter is 14? _____.
14. What is the length of a rectangle whose area is 114 and width is 6? _____.
15. What is the width of a rectangle whose length is 11 and perimeter is 24? _____.
16. What is the perimeter of a rectangle whose length is 8 and width is 1? _____.

98 Trapezoids

1. What is the area of the trapezoid with bases 3 and 1 and whose height is 4? _____.
2. What is the area of the trapezoid with bases 1 and 11 and whose height is 3? _____.
3. What is the area of the trapezoid with bases 3 and 20 and whose height is 11? _____.
4. What is the height of the trapezoid whose bases are 1 and 18 and whose area is 114? _____.
5. What is the area of the trapezoid with bases 7 and 2 and whose height is 8? _____.
6. What is the area of the trapezoid with bases 7 and 4 and whose height is 10? _____.
7. What is the area of the trapezoid with bases 16 and 1 and whose height is 11? _____.
8. What is the area of the trapezoid with bases 7 and 12 and whose height is 10? _____.
9. What is the area of the trapezoid with bases 18 and 10 and whose height is 5? _____.
10. What is the height of the trapezoid whose bases are 15 and 10 and whose area is $112\frac{1}{2}$? _____.
11. What is the area of the trapezoid with bases 2 and 3 and whose height is 6? _____.
12. What is the height of the trapezoid whose bases are 6 and 4 and whose area is 10? _____.
13. What is the area of the trapezoid with bases 9 and 12 and whose height is 9? _____.
14. What is the height of the trapezoid whose bases are 6 and 6 and whose area is 72? _____.
15. What is the area of the trapezoid with bases 11 and 5 and whose height is 4? _____.
16. What is the area of the trapezoid with bases 11 and 16 and whose height is 9? _____.

99 Rhombuses

1. A rhombus has an area of 75. If one diagonal is 15, find the other diagonal. _____.
2. What is the area of the rhombus whose diagonals are 16 and 18? _____.
3. What is the area of the rhombus whose diagonals are 9 and 8? _____.
4. What is the area of the rhombus whose diagonals are 14 and 8? _____.
5. A rhombus has an area of $\frac{51}{2}$. If one diagonal is 3, find the other diagonal. _____.
6. What is the area of the rhombus whose diagonals are 12 and 10? _____.
7. A rhombus has an area of 12. If one diagonal is 3, find the other diagonal. _____.
8. A rhombus has an area of 50. If one diagonal is 10, find the other diagonal. _____.
9. A rhombus has an area of 9. If one diagonal is 1, find the other diagonal. _____.
10. A rhombus has an area of 40. If one diagonal is 5, find the other diagonal. _____.
11. What is the area of the rhombus whose diagonals are 20 and 3? _____.
12. What is the area of the rhombus whose diagonals are 10 and 9? _____.
13. A rhombus has an area of 99. If one diagonal is 11, find the other diagonal. _____.
14. A rhombus has an area of 150. If one diagonal is 20, find the other diagonal. _____.
15. A rhombus has an area of $\frac{195}{2}$. If one diagonal is 13, find the other diagonal. _____.
16. What is the area of the rhombus whose diagonals are 5 and 17? _____.

100 Parallelograms

1. The base of a parallelogram is 2 and its height is 10. What is its area? _____.
2. The base of a parallelogram is 11 and its height is 10. What is its area? _____.
3. The area of a parallelogram is 20. If its base is 4, find its height. _____.
4. The area of a parallelogram is 72. If its base is 18, find its height. _____.
5. The base of a parallelogram is 8 and its height is 2. What is its area? _____.
6. The base of a parallelogram is 12 and its height is 4. What is its area? _____.
7. The base of a parallelogram is 18 and its height is 12. What is its area? _____.
8. The base of a parallelogram is 14 and its height is 5. What is its area? _____.
9. The area of a parallelogram is 209. If its base is 11, find its height. _____.
10. The base of a parallelogram is 9 and its height is 12. What is its area? _____.
11. The area of a parallelogram is 288. If its base is 16, find its height. _____.
12. The base of a parallelogram is 8 and its height is 10. What is its area? _____.
13. The area of a parallelogram is 90. If its base is 9, find its height. _____.
14. The base of a parallelogram is 9 and its height is 15. What is its area? _____.
15. The area of a parallelogram is 108. If its base is 9, find its height. _____.
16. The base of a parallelogram is 15 and its height is 20. What is its area? _____.

101 Circles

1. The area of a circle is 144π . Find its circumference. _____ π .
2. The radius of a circle is 2. Find its area. _____ π .
3. The diameter of a circle is 24. Find its circumference. _____ π .
4. The radius of a circle is 14. Find its circumference. _____ π .
5. The diameter of a circle is 4. Find its circumference. _____ π .
6. The radius of a circle is 10. Find its circumference. _____ π .
7. The circumference of a circle is 22π . Find its area. _____ π .
8. The diameter of a circle is 14. Find its circumference. _____ π .
9. The radius of a circle is 2. Find its area. _____ π .
10. The diameter of a circle is 28. Find its area. _____ π .
11. The area of a circle is 49π . Find its diameter. _____.
12. The circumference of a circle is 24π . Find its diameter. _____.
13. The circumference of a circle is 10π . Find its area. _____ π .
14. The area of a circle is 144π . Find its radius. _____.
15. The circumference of a circle is 28π . Find its area. _____ π .
16. The radius of a circle is 13. Find its area. _____ π .

102 Cubes

1. What is the side of a cube whose volume is 512?
_____.
2. What is the side of a cube whose total surface area measures 54? _____.
3. What is the side of a cube whose volume is 1728?
_____.
4. What is the total surface area of a cube whose sides measure 11? _____.
5. What is the side of a cube whose volume is 343?
_____.
6. What is the side of a cube whose total surface area measures 6? _____.
7. What is the total surface area of a cube whose sides measure 11? _____.
8. What is the total surface area of a cube whose sides measure 8? _____.
9. What is the side of a cube whose volume is 1000?
_____.
10. What is the total surface area of a cube whose sides measure 8? _____.
11. What is the side of a cube whose volume is 343?
_____.
12. What is the total surface area of a cube whose sides measure 1? _____.
13. What is the side of a cube whose volume is 1728?
_____.
14. What is the side of a cube whose volume is 1000?
_____.
15. What is the total surface area of a cube whose sides measure 6? _____.
16. What is the side of a cube whose total surface area measures 216? _____.

103 Rectangular Prisms

1. Find the volume of a rectangular prism whose dimensions are 1 by 8 by 8. _____.
2. The total surface area of a rectangular prism is 224. Its sides are 8 by 3 by _____. .
3. The total surface area of a rectangular prism is 352. Its sides are 8 by 12 by _____. .
4. The volume of a rectangular prism is 1120. Its sides are 14 by 8 by _____. .
5. The total surface area of a rectangular prism is 368. Its sides are 6 by 14 by _____. .
6. The volume of a rectangular prism is 400. Its sides are 4 by 10 by _____. .
7. The volume of a rectangular prism is 240. Its sides are 8 by 6 by _____. .
8. Find the volume of a rectangular prism whose dimensions are 3 by 5 by 3. _____.
9. The sides of a rectangular prism are 3 by 3 by 5. What is its total surface area? _____.
10. Find the volume of a rectangular prism whose dimensions are 9 by 5 by 1. _____.
11. The sides of a rectangular prism are 8 by 9 by 1. What is its total surface area? _____.
12. Find the volume of a rectangular prism whose dimensions are 2 by 10 by 12. _____.
13. The sides of a rectangular prism are 9 by 2 by 14. What is its total surface area? _____.
14. The volume of a rectangular prism is 126. Its sides are 2 by 9 by _____. .
15. Find the volume of a rectangular prism whose dimensions are 6 by 2 by 1. _____.
16. The sides of a rectangular prism are 4 by 6 by 8. What is its total surface area? _____.

104 Cylinders

1. What is the total surface area of a right circular cylinder whose radius is 5 and height is 1? _____ π .
2. What is the volume of a right circular cylinder whose radius is 1 and height is 9? _____ π .
3. The volume of a right circular cylinder is 54π . If its height is 6, what is its radius? _____.
4. What is the volume of a right circular cylinder whose radius is 9 and height is 8? _____ π .
5. The volume of a right circular cylinder is 40π . If its radius is 2, what is its height? _____.
6. The volume of a right circular cylinder is 196π . If its radius is 7, what is its height? _____.
7. What is the volume of a right circular cylinder whose radius is 9 and height is 4? _____ π .
8. The volume of a right circular cylinder is 80π . If its radius is 4, what is its height? _____.
9. What is the volume of a right circular cylinder whose radius is 8 and height is 4? _____ π .
10. The volume of a right circular cylinder is 63π . If its radius is 3, what is its height? _____.
11. The volume of a right circular cylinder is 144π . If its height is 9, what is its radius? _____.
12. The volume of a right circular cylinder is 343π . If its radius is 7, what is its height? _____.
13. The volume of a right circular cylinder is 6π . If its radius is 1, what is its height? _____.
14. What is the volume of a right circular cylinder whose radius is 10 and height is 1? _____ π .
15. The volume of a right circular cylinder is 100π . If its height is 1, what is its radius? _____.
16. What is the total surface area of a right circular cylinder whose radius is 4 and height is 4? _____ π .

105 Cones

1. What is the height of a right circular cone whose volume is 243π and radius is 9? _____.
2. What is the radius of a right circular cone whose volume is 50π and height is 6? _____.
3. What is the volume of a right circular cone whose radius is 3 and height is 10? _____ π .
4. What is the volume of a right circular cone whose radius is 4 and height is 2? _____ π .
5. What is the volume of a right circular cone whose radius is 9 and height is 1? _____ π .
6. What is the radius of a right circular cone whose volume is 192π and height is 9? _____.
7. What is the radius of a right circular cone whose volume is 27π and height is 1? _____.
8. What is the radius of a right circular cone whose volume is $\frac{250}{3}\pi$ and height is 10? _____.
9. What is the height of a right circular cone whose volume is 98π and radius is 7? _____.
10. What is the radius of a right circular cone whose volume is $\frac{200}{3}\pi$ and height is 2? _____.
11. What is the height of a right circular cone whose volume is 48π and radius is 6? _____.
12. What is the height of a right circular cone whose volume is 25π and radius is 5? _____.
13. What is the height of a right circular cone whose volume is $\frac{4}{3}\pi$ and radius is 2? _____.
14. What is the height of a right circular cone whose volume is $\frac{4}{3}\pi$ and radius is 1? _____.
15. What is the height of a right circular cone whose volume is 2π and radius is 1? _____.

106 Spheres

1. Find the surface area of the sphere whose radius is 6.
_____ π .
2. Find the volume of a sphere whose radius 3.
_____ π .
3. Find the surface area of the sphere whose diameter is 6.
_____ π .
4. Find the surface area of the sphere whose volume is 4π .
_____ π .
5. Find the surface area of the sphere whose diameter is 12.
_____ π .
6. Find the volume of the sphere whose radius is 2.
_____ π .
7. Find the radius of the sphere whose surface area is 400π .
_____.
8. Find the surface area of the sphere whose radius is 8.
_____ π .
9. Find the surface area of the sphere whose volume is 972π .
_____.
10. Find the volume of the sphere whose surface area is 4π .
_____ π .
11. Find the surface area of the sphere whose volume is 288π .
_____ π .
12. Find the surface area of the sphere whose diameter is 8.
_____ π .
13. Find the volume of the sphere whose diameter is 8.
_____ π .
14. Find the radius of the sphere whose volume is $\frac{1372}{3}\pi$.
_____.
15. Find the surface area of the sphere whose volume is $\frac{4}{3}\pi$.
_____ π .
16. Find the volume of the sphere whose radius is $\frac{1}{3}$.
_____ π .

107 Multiplication Redistribution

1. $33 \times 23 =$ _____.
2. $15 \times 28 =$ _____.
3. $15 \times 30 =$ _____.
4. $15 \times 56 =$ _____.
5. $15 \times 80 =$ _____.
6. $15 \times 94 =$ _____.
7. $88 \times 48 =$ _____.
8. $77 \times 53 =$ _____.
9. $55 \times 91 =$ _____.
10. $15 \times 94 =$ _____.
11. $15 \times 96 =$ _____.
12. $88 \times 84 =$ _____.
13. $15 \times 18 =$ _____.
14. $15 \times 66 =$ _____.
15. $22 \times 53 =$ _____.
16. $22 \times 96 =$ _____.

108 Factorials

1. $4! =$ _____ .

9. $5! =$ _____ .

2. $3! =$ _____ .

10. $5! - 4! =$ _____ .

3. $8! =$ _____ .

11. $9! \div 7! =$ _____ .

4. $6! \div 5! =$ _____ .

12. $2! \div 1! =$ _____ .

5. $8! \div 7! =$ _____ .

13. $4! \div 5! =$ _____ (decimal).

6. $1! \times 2! \times 3! =$ _____ .

14. $3! =$ _____ .

7. $5! \div 3! =$ _____ .

15. $9! \div 5! =$ _____ .

8. $2! =$ _____ .

16. $8! =$ _____ .

109 Higher Powers

1. $2^{10} =$ _____ .

9. $2^6 =$ _____ .

2. $2^8 =$ _____ .

10. $2^7 =$ _____ .

3. $5^4 =$ _____ .

11. $2^8 =$ _____ .

4. $4^4 =$ _____ .

12. $3^3 =$ _____ .

5. $2^9 =$ _____ .

13. $2^4 =$ _____ .

6. $2^5 =$ _____ .

14. $2^5 =$ _____ .

7. $3^3 =$ _____ .

15. $2^6 =$ _____ .

8. $5^4 =$ _____ .

16. $2^6 =$ _____ .

110 Exponents and Operations

1. $\frac{9^3 \times 9^5}{9^4} = \underline{\hspace{2cm}}.$
2. $\frac{9^3 \times 9^3}{9^7} = \underline{\hspace{2cm}}.$
3. $\frac{3^4 \times 3^4}{3^7} = \underline{\hspace{2cm}}.$
4. $\frac{5^5 \times 5^5}{5^6} = \underline{\hspace{2cm}}.$
5. $\frac{2^5 \times 2^4}{2^8} = \underline{\hspace{2cm}}.$
6. $\frac{6^5 \times 6^4}{6^7} = \underline{\hspace{2cm}}.$
7. $\frac{5^3 \times 5^4}{5^8} = \underline{\hspace{2cm}}.$
8. $\frac{4^2 \times 4^4}{4^9} = \underline{\hspace{2cm}}.$
9. $\frac{5^5 \times 5^4}{5^5} = \underline{\hspace{2cm}}.$
10. $\frac{3^3 \times 3^5}{3^6} = \underline{\hspace{2cm}}.$
11. $\frac{9^2 \times 9^2}{9^8} = \underline{\hspace{2cm}}.$
12. $\frac{3^5 \times 3^2}{3^6} = \underline{\hspace{2cm}}.$
13. $\frac{5^5 \times 5^5}{5^3} = \underline{\hspace{2cm}}.$
14. $\frac{5^9 \times 3^9}{15^7} = \underline{\hspace{2cm}}.$
15. $\frac{2^5 \times 4^5}{8^3} = \underline{\hspace{2cm}}.$
16. $\frac{8^7 \times 3^7}{24^7} = \underline{\hspace{2cm}}.$

111 Order of Operations with Negatives

1. $(9)(1) - (2) = \underline{\hspace{2cm}}.$
2. $(3)(9) - (-5) = \underline{\hspace{2cm}}.$
3. $-7 - (-4)(5) = \underline{\hspace{2cm}}.$
4. $3 - 2 - (-1) + (-2) = \underline{\hspace{2cm}}.$
5. $6 - 4^2 = \underline{\hspace{2cm}}.$
6. $1 - (1)(-7) = \underline{\hspace{2cm}}.$
7. $-2 - (-7)(5) = \underline{\hspace{2cm}}.$
8. $5 - (5)(7 + 7) = \underline{\hspace{2cm}}.$
9. $1 - 6(1 - 3) = \underline{\hspace{2cm}}.$
10. $(3)(-7) - (4) = \underline{\hspace{2cm}}.$
11. $(0)(9) - (-2) = \underline{\hspace{2cm}}.$
12. $7 \times 9 - (-9) = \underline{\hspace{2cm}}.$
13. $3 \times (-3) - (5) = \underline{\hspace{2cm}}.$
14. $-4(3 - 2 + 8) - (-5) = \underline{\hspace{2cm}}.$
15. $(-20) \div 4 - 3 = \underline{\hspace{2cm}}.$
16. $2 - (4)(-5) = \underline{\hspace{2cm}}.$

112 $a^2 + (3a)^2$

1. $9^2 + 27^2 =$ _____ .

9. $40^2 + 120^2 =$ _____ .

2. $11^2 + 33^2 =$ _____ .

10. $12^2 + 36^2 =$ _____ .

3. $8^2 + 24^2 =$ _____ .

11. $48^2 + 144^2 =$ _____ .

4. $13^2 + 39^2 =$ _____ .

12. $36^2 + 108^2 =$ _____ .

5. $18^2 + 54^2 =$ _____ .

13. $41^2 + 123^2 =$ _____ .

6. $46^2 + 138^2 =$ _____ .

14. $36^2 + 108^2 =$ _____ .

7. $16^2 + 48^2 =$ _____ .

15. $23^2 + 69^2 =$ _____ .

8. $34^2 + 102^2 =$ _____ .

16. $49^2 + 147^2 =$ _____ .

113 $a^2 + (2a)^2$

1. $8^2 + 16^2 =$ _____ .

9. $34^2 + 68^2 =$ _____ .

2. $12^2 + 24^2 =$ _____ .

10. $32^2 + 16^2 =$ _____ .

3. $14^2 + 28^2 =$ _____ .

11. $54^2 + 27^2 =$ _____ .

4. $30^2 + 60^2 =$ _____ .

12. $22^2 + 44^2 =$ _____ .

5. $9^2 + 18^2 =$ _____ .

13. $15^2 + 30^2 =$ _____ .

6. $34^2 + 68^2 =$ _____ .

14. $48^2 + 96^2 =$ _____ .

7. $19^2 + 38^2 =$ _____ .

15. $35^2 + 70^2 =$ _____ .

8. $24^2 + 48^2 =$ _____ .

16. $37^2 + 74^2 =$ _____ .

114 Special Subtraction Problem

1. $824 - 428 =$ _____ .
2. $359 - 953 =$ _____ .
3. $476 - 674 =$ _____ .
4. $381 - 183 =$ _____ .
5. $582 - 285 =$ _____ .
6. $946 - 649 =$ _____ .
7. $216 - 612 =$ _____ .
8. $417 - 714 =$ _____ .
9. $916 - 619 =$ _____ .
10. $451 - 154 =$ _____ .
11. $678 - 876 =$ _____ .
12. $816 - 618 =$ _____ .
13. $581 - 185 =$ _____ .
14. $415 - 514 =$ _____ .
15. $699 - 996 =$ _____ .
16. $261 - 162 =$ _____ .

115 Probability with sets

1. A number from 1, 2, 3, ..., 39 is selected at random.
Find the probability that the number is a factor of 39.
_____ .
2. A number from 1, 2, 3, ..., 24 is selected at random.
Find the probability that the number is a factor of 24.
_____ .
3. A number from 1, 2, 3, ..., 20 is selected at random.
Find the probability that the number is a factor of 20.
_____ .
4. A number from 1, 2, 3, ..., 22 is selected at random.
Find the probability that the number is a factor of 22.
_____ .
5. A number from 1, 2, 3, ..., 34 is selected at random.
Find the probability that the number is a factor of 34.
_____ .
6. A number from 1, 2, 3, ..., 27 is selected at random.
Find the probability that the number is a factor of 27.
_____ .
7. A number from 1, 2, 3, ..., 30 is selected at random.
Find the probability that the number is a factor of 30.
_____ .
8. A number from 1, 2, 3, ..., 20 is selected at random.
Find the probability that the number is a factor of 20.
_____ .
9. A number from 1, 2, 3, ..., 31 is selected at random.
Find the probability that the number is a factor of 31.
_____ .
10. A number from 1, 2, 3, ..., 12 is selected at random.
Find the probability that the number is a factor of 12.
_____ .
11. A number from 1, 2, 3, ..., 44 is selected at random.
Find the probability that the number is a factor of 44.
_____ .
12. A number from 1, 2, 3, ..., 39 is selected at random.
Find the probability that the number is a factor of 39.
_____ .
13. A number from 1, 2, 3, ..., 33 is selected at random.
Find the probability that the number is a factor of 33.
_____ .
14. A number from 1, 2, 3, ..., 36 is selected at random.
Find the probability that the number is a factor of 36.
_____ .
15. A number from 1, 2, 3, ..., 14 is selected at random.
Find the probability that the number is a factor of 14.
_____ .
16. A number from 1, 2, 3, ..., 25 is selected at random.
Find the probability that the number is a factor of 25.
_____ .

116 Probability with dice

- Find the probability of rolling two dice and getting a sum of 4. _____.
- Find the probability of rolling two dice and getting a sum of 2. _____.
- Find the probability of rolling two dice and getting a sum of 12. _____.
- Find the probability of rolling two dice and getting a sum of 8. _____.
- Find the probability of rolling two dice and getting a sum of 9. _____.
- Find the probability of rolling two dice and getting a sum of 3. _____.
- Find the probability of rolling two dice and getting a sum of 2 or 12. _____.
- Find the probability of rolling two dice and getting a sum of 9. _____.
- Find the probability of rolling two dice and getting a sum of 5. _____.
- Find the probability of rolling two dice and getting a sum of 10. _____.
- Find the probability of rolling two dice and getting a sum of 11 or 12. _____.
- Find the probability of rolling two dice and getting a sum of 7 or 8. _____.
- Find the probability of rolling two dice and not getting a sum of 12. _____.
- Find the probability of rolling two dice and not getting a sum of 5. _____.
- Find the probability of rolling two dice and not getting a sum of 7. _____.
- Find the probability of rolling two dice and not getting a sum of 2. _____.

117 Probability with coins

- What is the probability of flipping a fair coin 8 times and getting all heads? _____.
- What is the probability of flipping a fair coin 7 times and getting all heads? _____.
- What is the probability of flipping a fair coin 2 times and getting all tails? _____.
- What is the probability of flipping a fair coin 2 times and getting all heads? _____.
- What is the probability of flipping a fair coin 6 times and getting all tails? _____.
- What is the probability of flipping a fair coin 4 times and getting all tails? _____.
- What is the probability of flipping a fair coin 5 times and getting all heads? _____.
- What is the probability of flipping a fair coin 7 times and getting all heads? _____.
- What is the probability of flipping a fair coin 2 times and getting all heads? _____.
- What is the probability of flipping a fair coin 10 times and getting all tails? _____.
- What is the probability of flipping a fair coin 6 times and getting all tails? _____.
- What is the probability of flipping a fair coin 2 times and getting all heads? _____.
- What is the probability of flipping a fair coin 7 times and getting all tails? _____.
- What is the probability of flipping a fair coin 5 times and getting all tails? _____.
- What is the probability of flipping a fair coin 4 times and getting all heads? _____.
- What is the probability of flipping a fair coin 10 times and getting all tails? _____.

118 Probability with cards

1. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a red card?
_____.
2. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a black King? _____.
3. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a 2? _____.
4. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a 6 of hearts? _____.
5. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a black 7? _____.
6. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a club? _____.
7. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a black 5? _____.
8. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a 8? _____.
9. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a red 6? _____.
10. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a 6? _____.
11. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a 9? _____.
12. A card is dealt at random from a standard deck of 52 cards. What is the probability of getting a heart? _____.

119 Odds

1. The probability of an event is $\frac{7}{10}$. What are the odds against this event? _____.
2. The probability of an event is $\frac{5}{18}$. What are the odds for this event? _____.
3. The probability of an event is $\frac{9}{16}$. What are the odds for this event? _____.
4. The probability of an event is $\frac{7}{12}$. What are the odds for this event? _____.
5. The odds against an event are $\frac{4}{13}$. What is the probability of this event? _____.
6. The probability of an event is $\frac{12}{19}$. What are the odds against this event? _____.
7. The odds against an event are $\frac{1}{4}$. What is the probability of this event? _____.
8. The odds against an event are $\frac{1}{3}$. What is the probability of this event? _____.
9. The probability of an event is $\frac{13}{18}$. What are the odds for this event? _____.
10. The probability of an event is $\frac{11}{19}$. What are the odds for this event? _____.
11. The odds for an event are $\frac{6}{7}$. What is the probability of this event? _____.
12. The probability of an event is $\frac{2}{11}$. What are the odds for this event? _____.
13. The probability of an event is $\frac{17}{18}$. What are the odds against this event? _____.
14. The probability of an event is $\frac{3}{7}$. What are the odds for this event? _____.

120 Remainders with Operations

1. $(22 \times 15 + 22) \div 9$ has a remainder of _____.
2. $(14 \times 19 + 22) \div 3$ has a remainder of _____.
3. $(24 + 9 \times 29) \div 3$ has a remainder of _____.
4. $(21^6 \times 8 + 13) \div 3$ has a remainder of _____.
5. $(23 \times 11 + 30) \div 5$ has a remainder of _____.
6. $(25 \times 18 + 16) \div 6$ has a remainder of _____.
7. $(16 + 21 \times 28) \div 8$ has a remainder of _____.
8. $(16^8 \times 11 + 28) \div 6$ has a remainder of _____.
9. $(9 + 11 \times 13) \div 7$ has a remainder of _____.
10. $(15 + 26 \times 14) \div 6$ has a remainder of _____.
11. $(27^8 \times 9 + 26) \div 9$ has a remainder of _____.
12. $(25 + 25 \times 8) \div 9$ has a remainder of _____.
13. $(19^6 \times 12 + 25) \div 6$ has a remainder of _____.
14. $(28 + 26 \times 9) \div 3$ has a remainder of _____.
15. $(25 \times 11 + 9) \div 6$ has a remainder of _____.
16. $(29^2 \times 18 + 8) \div 8$ has a remainder of _____.
17. $(19^9 \times 16 + 22) \div 4$ has a remainder of _____.
18. $(18 \times 17 + 24) \div 5$ has a remainder of _____.
19. $(17 + 27 \times 21) \div 3$ has a remainder of _____.
20. $(14^9 \times 25 + 12) \div 9$ has a remainder of _____.
21. $(27 \times 8 + 10) \div 4$ has a remainder of _____.
22. $(27 + 17 \times 26) \div 4$ has a remainder of _____.
23. $(15^9 \times 19 + 11) \div 3$ has a remainder of _____.
24. $(8 \times 13 + 29) \div 8$ has a remainder of _____.
25. $(17 + 14 \times 22) \div 4$ has a remainder of _____.
26. $(15^4 \times 24 + 17) \div 5$ has a remainder of _____.
27. $(15^4 \times 15 + 25) \div 6$ has a remainder of _____.
28. $(15 + 29 \times 17) \div 3$ has a remainder of _____.
29. $(11 \times 13 + 26) \div 9$ has a remainder of _____.
30. $(13 \times 22 + 10) \div 6$ has a remainder of _____.
31. $(11 + 13 \times 10) \div 8$ has a remainder of _____.
32. $(10 + 17 \times 18) \div 5$ has a remainder of _____.
33. $(19 + 28 \times 14) \div 8$ has a remainder of _____.
34. $(18 \times 10 + 14) \div 6$ has a remainder of _____.
35. $(17^2 \times 29 + 22) \div 9$ has a remainder of _____.
36. $(25 \times 9 + 15) \div 9$ has a remainder of _____.
37. $(18 \times 23 + 12) \div 7$ has a remainder of _____.
38. $(28 \times 21 + 23) \div 8$ has a remainder of _____.
39. $(25 + 12 \times 11) \div 7$ has a remainder of _____.
40. $(20 \times 10 + 10) \div 8$ has a remainder of _____.
41. $(29^9 \times 23 + 30) \div 6$ has a remainder of _____.
42. $(20^9 \times 18 + 30) \div 4$ has a remainder of _____.
43. $(19 \times 23 + 13) \div 5$ has a remainder of _____.
44. $(22 + 21 \times 13) \div 9$ has a remainder of _____.
45. $(20 + 10 \times 9) \div 5$ has a remainder of _____.
46. $(20 \times 11 + 19) \div 4$ has a remainder of _____.
47. $(15 \times 27 + 29) \div 9$ has a remainder of _____.
48. $(29 \times 10 + 20) \div 4$ has a remainder of _____.
49. $(21 + 25 \times 27) \div 5$ has a remainder of _____.
50. $(14^2 \times 30 + 14) \div 4$ has a remainder of _____.

121 Base Conversions

1. 31 (base 6) = _____ (base 4).
2. 32 (base 5) = _____ (base 7).
3. 34 (base 5) = _____ (base 6).
4. 101 (base 5) = _____ (base 4).
5. 111 (base 4) = _____ (base 2).
6. 110 (base 2) = _____ (base 4).
7. 1110 (base 2) = _____ (base 7).
8. 25 (base 9) = _____ (base 2).
9. 16 (base 9) = _____ (base 4).
10. 65 (base 7) = _____ (base 5).
11. 61 (base 8) = _____ (base 4).
12. 100 (base 3) = _____ (base 6).
13. 201 (base 3) = _____ (base 8).
14. 1100 (base 2) = _____ (base 7).
15. 22 (base 6) = _____ (base 4).
16. 21 (base 3) = _____ (base 7).
17. 42 (base 5) = _____ (base 6).
18. 1011 (base 2) = _____ (base 8).
19. 33 (base 4) = _____ (base 5).
20. 44 (base 6) = _____ (base 9).
21. 35 (base 8) = _____ (base 7).
22. 33 (base 7) = _____ (base 3).
23. 36 (base 7) = _____ (base 8).
24. 11 (base 2) = _____ (base 4).
25. 24 (base 8) = _____ (base 4).
26. 221 (base 3) = _____ (base 5).
27. 53 (base 9) = _____ (base 6).
28. 41 (base 5) = _____ (base 2).
29. 20 (base 7) = _____ (base 2).
30. 27 (base 8) = _____ (base 3).
31. 44 (base 5) = _____ (base 8).
32. 65 (base 8) = _____ (base 4).
33. 51 (base 8) = _____ (base 4).
34. 65 (base 7) = _____ (base 6).
35. 43 (base 8) = _____ (base 9).
36. 11001 (base 2) = _____ (base 7).
37. 77 (base 8) = _____ (base 9).
38. 1111 (base 2) = _____ (base 8).
39. 27 (base 8) = _____ (base 7).
40. 77 (base 9) = _____ (base 8).
41. 51 (base 8) = _____ (base 6).
42. 111 (base 4) = _____ (base 9).
43. 30 (base 7) = _____ (base 10).
44. 11 (base 5) = _____ (base 7).
45. 16 (base 9) = _____ (base 6).
46. 40 (base 5) = _____ (base 3).
47. 67 (base 9) = _____ (base 7).
48. 120 (base 3) = _____ (base 9).
49. 23 (base 7) = _____ (base 6).
50. 11101 (base 2) = _____ (base 7).

122 Base 2

1. 211 (base 4) = _____ (base 2).
2. 130 (base 4) = _____ (base 2).
3. 110 (base 4) = _____ (base 2).
4. 230 (base 4) = _____ (base 2).
5. 110100 (base 2) = _____ (base 8).
6. 333 (base 4) = _____ (base 2).
7. 133 (base 4) = _____ (base 2).
8. 10111 (base 2) = _____ (base 4).
9. 101001 (base 2) = _____ (base 4).
10. 330 (base 4) = _____ (base 2).
11. 24 (base 8) = _____ (base 2).
12. 303 (base 4) = _____ (base 2).
13. 211 (base 4) = _____ (base 2).
14. 54 (base 8) = _____ (base 2).
15. 111110 (base 2) = _____ (base 8).
16. 223 (base 4) = _____ (base 2).
17. 40 (base 8) = _____ (base 2).
18. 56 (base 8) = _____ (base 2).
19. 101 (base 4) = _____ (base 2).
20. 110011 (base 2) = _____ (base 8).
21. 101100 (base 2) = _____ (base 4).
22. 321 (base 4) = _____ (base 2).
23. 110101 (base 2) = _____ (base 8).
24. 55 (base 8) = _____ (base 2).
25. 101110 (base 2) = _____ (base 8).
26. 310 (base 4) = _____ (base 2).
27. 10101 (base 2) = _____ (base 8).
28. 111000 (base 2) = _____ (base 8).
29. 11100 (base 2) = _____ (base 8).
30. 110110 (base 2) = _____ (base 4).

123 Base 3

1. 43 (base 9) = _____ (base 3).
2. 1010 (base 3) = _____ (base 9).
3. 16 (base 9) = _____ (base 3).
4. 16 (base 9) = _____ (base 3).
5. 2101 (base 3) = _____ (base 9).
6. 221 (base 3) = _____ (base 9).
7. 57 (base 9) = _____ (base 3).
8. 44 (base 9) = _____ (base 3).
9. 1001 (base 3) = _____ (base 9).
10. 60 (base 9) = _____ (base 3).
11. 51 (base 9) = _____ (base 3).
12. 58 (base 9) = _____ (base 3).
13. 2100 (base 3) = _____ (base 9).
14. 78 (base 9) = _____ (base 3).
15. 1210 (base 3) = _____ (base 9).
16. 2012 (base 3) = _____ (base 9).

124 Adding and Subtracting Bases

1. $34 \text{ (base 5)} - 21 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
2. $47 \text{ (base 8)} - 26 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
3. $33 \text{ (base 4)} + 11 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
4. $40 \text{ (base 9)} + 85 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
5. $63 \text{ (base 7)} - 15 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.
6. $56 \text{ (base 8)} - 20 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
7. $22 \text{ (base 5)} - 22 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
8. $31 \text{ (base 5)} - 23 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
9. $40 \text{ (base 5)} - 22 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
10. $30 \text{ (base 5)} - 22 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
11. $32 \text{ (base 7)} + 42 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.
12. $44 \text{ (base 5)} - 11 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
13. $31 \text{ (base 4)} - 30 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
14. $45 \text{ (base 7)} - 45 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.
15. $40 \text{ (base 6)} - 32 \text{ (base 6)} = \underline{\hspace{2cm}} \text{ (base 6)}$.
16. $33 \text{ (base 4)} + 22 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
17. $72 \text{ (base 8)} - 24 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
18. $32 \text{ (base 4)} + 20 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
19. $66 \text{ (base 9)} - 24 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
20. $56 \text{ (base 7)} + 23 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.

125 Multiplying Bases

1. $12 \text{ (base 6)} \times 4 \text{ (base 6)} = \underline{\hspace{2cm}} \text{ (base 6)}$.
2. $48 \text{ (base 9)} \times 8 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
3. $21 \text{ (base 4)} \times 3 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
4. $70 \text{ (base 8)} \times 2 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
5. $43 \text{ (base 6)} \times 5 \text{ (base 6)} = \underline{\hspace{2cm}} \text{ (base 6)}$.
6. $80 \text{ (base 9)} \times 3 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
7. $61 \text{ (base 8)} \times 3 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
8. $87 \text{ (base 9)} \times 2 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
9. $63 \text{ (base 8)} \times 7 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
10. $33 \text{ (base 8)} \times 5 \text{ (base 8)} = \underline{\hspace{2cm}} \text{ (base 8)}$.
11. $63 \text{ (base 9)} \times 7 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
12. $41 \text{ (base 5)} \times 4 \text{ (base 5)} = \underline{\hspace{2cm}} \text{ (base 5)}$.
13. $24 \text{ (base 9)} \times 8 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
14. $45 \text{ (base 6)} \times 4 \text{ (base 6)} = \underline{\hspace{2cm}} \text{ (base 6)}$.
15. $16 \text{ (base 9)} \times 5 \text{ (base 9)} = \underline{\hspace{2cm}} \text{ (base 9)}$.
16. $62 \text{ (base 7)} \times 3 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.
17. $51 \text{ (base 6)} \times 2 \text{ (base 6)} = \underline{\hspace{2cm}} \text{ (base 6)}$.
18. $12 \text{ (base 4)} \times 3 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
19. $30 \text{ (base 4)} \times 2 \text{ (base 4)} = \underline{\hspace{2cm}} \text{ (base 4)}$.
20. $33 \text{ (base 7)} \times 3 \text{ (base 7)} = \underline{\hspace{2cm}} \text{ (base 7)}$.

126 Additive Inverses

1. Find the additive inverse of $\frac{38}{7}$. _____.
2. Find the additive inverse of -49 . _____.
3. Find the additive inverse of 87.6 . _____.
4. Find the additive inverse of $\frac{1}{2}$. _____.
5. Find the additive inverse of -33.8 . _____.
6. Find the additive inverse of $-\frac{25}{4}$. _____.
7. Find the additive inverse of 1.6 . _____.
8. Find the additive inverse of $-\frac{19}{6}$. _____.
9. Find the additive inverse of 50.3 . _____.
10. Find the additive inverse of 36 . _____.
11. Find the additive inverse of -41 . _____.
12. Find the additive inverse of -51 . _____.
13. Find the additive inverse of $\frac{20}{7}$. _____.
14. Find the additive inverse of 1 . _____.
15. Find the additive inverse of $\frac{19}{2}$. _____.
16. Find the additive inverse of -24 . _____.
17. Find the additive inverse of 54.6 . _____.
18. Find the additive inverse of 11 . _____.
19. Find the additive inverse of -16 . _____.
20. Find the additive inverse of -31.9 . _____.

127 Multiplicative Inverses

1. Find the multiplicative inverse of $1\frac{1}{3}$. _____.
2. Find the multiplicative inverse of 8 . _____.
3. Find the multiplicative inverse of $\frac{7}{10}$. _____.
4. Find the multiplicative inverse of $1\frac{1}{2}$. _____.
5. Find the multiplicative inverse of 0.25 .
_____ (mixed number).
6. Find the multiplicative inverse of 5 . _____.
7. Find the multiplicative inverse of 4 .
_____ (decimal).
8. Find the multiplicative inverse of 15 . _____.
9. Find the multiplicative inverse of $1\frac{4}{5}$. _____.
10. Find the multiplicative inverse of 0.3 .
_____ (mixed number).
11. Find the multiplicative inverse of 2.25 .
_____ (mixed number).
12. Find the multiplicative inverse of $\frac{1}{9}$. _____.
13. Find the multiplicative inverse of $\frac{4}{7}$. _____.
14. Find the multiplicative inverse of $\frac{5}{8}$. _____.
15. Find the multiplicative inverse of $\frac{4}{9}$. _____.
16. Find the multiplicative inverse of $\frac{7}{8}$. _____.
17. Find the multiplicative inverse of 0.5 . _____.
18. Find the multiplicative inverse of 3 . _____.
19. Find the multiplicative inverse of 0.75 .
_____ (mixed number).
20. Find the multiplicative inverse of 0.04 .
_____.

128 Sets

1. How many elements are in the set $\{8, 3, 7\}$? _____ .
2. If set $A = \{7, 2, 5, 4\}$ and set $B = \{5, 7, 9, 3, 6, 2\}$, how many elements are in the set $A \cup B$? _____ .
3. If set $A = \{3, 5, 10, 6\}$ and set $B = \{7, 3, 8, 1, 10, 9\}$, how many elements are in the set $A \cap B$? _____ .
4. If set $A = \{10, 6, 1, 9, 7, 3\}$ and set $B = \{10, 6, 9\}$, how many elements are in the set $A \cap B$? _____ .
5. If set $A = \{8, 6, 5\}$ and set $B = \{1, 3\}$, how many elements are in the set $A \cup B$? _____ .
6. If set $A = \{5, 6, 2\}$ and set $B = \{5, 9, 2, 1, 4, 10, 7\}$, how many elements are in the set $A \cup B$? _____ .
7. If set $A = \{6, 7, 4, 9, 2\}$ and set $B = \{7, 6, 3, 8\}$, how many elements are in the set $A \cap B$? _____ .
8. If set $A = \{4, 3, 7, 1, 8, 10, 9\}$ and set $B = \{5, 4\}$, how many elements are in the set $A \cap B$? _____ .
9. If set $A = \{7, 8, 10\}$ and set $B = \{10, 4, 8, 7\}$, how many elements are in the set $A \cup B$? _____ .
10. If set $A = \{3, 7, 2, 9\}$ and set $B = \{8, 10, 1\}$, how many elements are in the set $A \cup B$? _____ .
11. If set $A = \{10, 5, 3, 8, 9, 2\}$ and set $B = \{6, 1, 8, 5\}$, how many elements are in the set $A \cap B$? _____ .
12. If set $A = \{5, 10, 7, 3, 8, 6\}$ and set $B = \{3, 9, 1\}$, how many elements are in the set $A \cup B$? _____ .
13. How many elements are in the set $\{8, 4\}$? _____ .
14. If set $A = \{1, 8, 3, 9, 7, 6\}$ and set $B = \{1, 5, 2, 3, 8, 6, 7, 10\}$, how many elements are in the set $A \cap B$? _____ .
15. How many elements are in the set $\{10\}$? _____ .
16. How many elements are in the set $\{3, 10, 4, 2, 6, 5, 8\}$? _____ .

129 Average

1. Find the average of 104, 90, and 82. _____ .
2. Find the average of 46, 48, 42, 45, and 39. _____ .
3. Find the average of 76, 61, 66, and 73. _____ .
4. Find the average of 50, 48, 50, and 20. _____ .
5. Find the average of 59, 56, and 89. _____ .
6. Find the average of 10, 16, 19, 9, and 16. _____ .
7. Find the average of 37, 19, 28, and 40. _____ .
8. Find the average of 41, 47, and 35. _____ .
9. Find the average of 27, 21, 20, and 4. _____ .
10. Find the average of 30, 46, and 29. _____ .
11. Find the average of 46, 44, 31, and 31. _____ .
12. Find the average of 57, 69, 75, 53, and 66. _____ .
13. Find the average of 33, 34, 47, and 66. _____ .
14. Find the average of 61, 47, 66, 53, and 68. _____ .
15. Find the average of 2, 12, 2, and 36. _____ .
16. Find the average of 22, 11, 1, 23, and 3. _____ .

130 Median

1. Find the median of 19, 45, 32, 25, 100, 78, and 37. _____ .
2. Find the median of 32, 63, 49, 5, 43, and 9. _____ .
3. Find the median of 78, 75, 97, 20, 19, 70, and 79. _____ .
4. Find the median of 87, 87, 42, and 87. _____ .
5. Find the median of 25, 24, 29, 79, 35, 49, and 61. _____ .
6. Find the median of 78, 23, and 51. _____ .
7. Find the median of 68, 71, and 96. _____ .
8. Find the median of 3, 77, 43, 87, 60, 98, 53, and 44. _____ .
9. Find the median of 25, 20, 11, 12, 99, and 6. _____ .
10. Find the median of 1, 8, 42, 56, and 9. _____ .
11. Find the median of 25, 35, 5, 71, 26, 58, and 31. _____ .
12. Find the median of 16, 80, and 77. _____ .
13. Find the median of 61, 71, 79, 55, and 54. _____ .
14. Find the median of 82, 5, 9, 32, 1, and 29. _____ .
15. Find the median of 27, 10, 87, and 57. _____ .
16. Find the median of 66, 81, 70, 93, 64, 44, and 44. _____ .

131 Mode

1. Find the mode of 3, 3, 6, 1, 1, 1, and 6. _____ .
2. Find the mode of 4, 2, 2, 5, 2, 5, 2, and 4. _____ .
3. Find the mode of 8, 8, 2, 2, 8, 8, 7, and 7. _____ .
4. Find the mode of 4, 2, 3, 1, 6, 8, and 1. _____ .
5. Find the mode of 1, 7, 1, 2, 7, 2, 3, 2, and 3. _____ .
6. Find the mode of 4, 8, 2, 1, 6, and 6. _____ .
7. Find the mode of 8, 3, 3, 5, 6, and 4. _____ .
8. Find the mode of 8, 5, 8, 2, 3, 4, and 6. _____ .
9. Find the mode of 4, 4, 5, 2, 7, 7, 2, 4, and 5. _____ .
10. Find the mode of 3, 4, 2, 1, 3, and 8. _____ .
11. Find the mode of 8, 3, 2, 3, 2, 8, and 3. _____ .
12. Find the mode of 6, 6, 7, 2, 6, 7, and 2. _____ .
13. Find the mode of 5, 8, 1, 6, 2, 7, 4, and 6. _____ .
14. Find the mode of 8, 5, 1, 7, 3, 4, and 3. _____ .
15. Find the mode of 7, 2, 6, 7, 7, 2, and 6. _____ .
16. Find the mode of 4, 4, 6, 3, and 1. _____ .

132 Range

- Find the range of 11, 17, 30, 2, and 11. _____.
- Find the range of 8, 5, 6, and 11. _____.
- Find the range of 2, 20, 14, 10, 25, and 7. _____.
- Find the range of 23, 17, 28, 16, 7, 17, and 10. _____.
- Find the range of 11, 11, 30, 6, 25, 6, and 26. _____.
- Find the range of 15, 15, 9, and 12. _____.
- Find the range of 23, 6, 6, and 24. _____.
- Find the range of 30, 24, 17, 18, 14, 9, and 24. _____.
- Find the range of 11, 27, 30, 11, 18, 1, and 18. _____.
- Find the range of 19, 26, 3, 19, 8, 13, and 26. _____.
- Find the range of 24, 23, 23, 16, 8, and 29. _____.
- Find the range of 22, 22, 8, 18, 10, and 29. _____.
- Find the range of 3, 10, 17, 24, 1, and 1. _____.
- Find the range of 18, 12, 22, 22, and 15. _____.
- Find the range of 27, 16, 18, 2, 26, and 30. _____.
- Find the range of 9, 17, 9, 26, and 20. _____.

133 Relatively Prime

- How many positive integers less than or equal to 18 are relatively prime to 18? _____.
- How many positive integers less than or equal to 62 are relatively prime to 62? _____.
- How many positive integers less than or equal to 84 are relatively prime to 84? _____.
- How many positive integers less than or equal to 76 are relatively prime to 76? _____.
- How many positive integers less than or equal to 34 are relatively prime to 34? _____.
- How many positive integers less than or equal to 69 are relatively prime to 69? _____.
- How many positive integers less than or equal to 35 are relatively prime to 35? _____.
- How many positive integers less than or equal to 65 are relatively prime to 65? _____.
- How many positive integers less than or equal to 45 are relatively prime to 45? _____.
- How many positive integers less than or equal to 58 are relatively prime to 58? _____.
- How many positive integers less than or equal to 42 are relatively prime to 42? _____.
- How many positive integers less than or equal to 18 are relatively prime to 18? _____.
- How many positive integers less than or equal to 33 are relatively prime to 33? _____.
- How many positive integers less than or equal to 32 are relatively prime to 32? _____.
- How many positive integers less than or equal to 34 are relatively prime to 34? _____.
- How many positive integers less than or equal to 45 are relatively prime to 45? _____.

134 Triangular Numbers

1. The 7th triangular number is _____.
2. The 9th triangular number is _____.
3. The 3rd triangular number is _____.
4. The 11th triangular number is _____.
5. The 5th triangular number is _____.
6. The 4th triangular number is _____.
7. The 12th triangular number is _____.
8. The 3rd triangular number is _____.
9. The 12th triangular number is _____.
10. The 6th triangular number is _____.
11. The 5th triangular number is _____.
12. The 10th triangular number is _____.
13. The 9th triangular number is _____.
14. The 3rd triangular number is _____.
15. The 4th triangular number is _____.
16. The 5th triangular number is _____.

135 Other Figurate Numbers

1. The 5th octagonal number is _____.
2. The 9th heptagonal number is _____.
3. The 4th hexagonal number is _____.
4. The 3rd triangular number is _____.
5. The 6th octagonal number is _____.
6. The 3rd pentagonal number is _____.
7. The 7th pentagonal number is _____.
8. The 6th pentagonal number is _____.
9. The 4th heptagonal number is _____.
10. The 10th triangular number is _____.
11. The 10th hexagonal number is _____.
12. The 10th pentagonal number is _____.
13. The 2nd heptagonal number is _____.
14. The 8th octagonal number is _____.
15. The 9th hexagonal number is _____.
16. The 7th octagonal number is _____.

136 Greatest Integer / Least Integer

1. The greatest integer less than or equal to $\sqrt{603}$ is _____.
2. The least integer greater than or equal to $\sqrt[3]{226}$ is _____.
3. The least integer greater than or equal to $\sqrt{995}$ is _____.
4. The greatest integer less than 12π is _____.
5. The least integer greater than or equal to $\sqrt{184}$ is _____.
6. The greatest integer less than or equal to $\sqrt[3]{668}$ is _____.
7. The least integer greater than or equal to $\sqrt[3]{1100}$ is _____.
8. The greatest integer less than 13π is _____.
9. The greatest integer less than or equal to $\sqrt{579}$ is _____.
10. The least integer greater than or equal to $\sqrt{711}$ is _____.
11. The smallest integer greater than 5π is _____.
12. The least integer greater than or equal to $\sqrt{965}$ is _____.
13. The greatest integer less than 2π is _____.
14. The greatest integer less than or equal to $\sqrt{761}$ is _____.
15. The greatest integer less than or equal to $\sqrt{998}$ is _____.
16. The greatest integer less than or equal to $\sqrt[3]{318}$ is _____.

137 Repeating Decimals

- | | |
|--|--|
| 1. $0.4444 \dots =$ _____ (fraction). | 26. $0.5959 \dots =$ _____ (fraction). |
| 2. $0.2222 \dots =$ _____ (fraction). | 27. $0.4888 \dots =$ _____ (fraction). |
| 3. $0.4747 \dots =$ _____ (fraction). | 28. $0.7444 \dots =$ _____ (fraction). |
| 4. $0.0888 \dots =$ _____ (fraction). | 29. $0.5454 \dots =$ _____ (fraction). |
| 5. $0.3333 \dots =$ _____ (fraction). | 30. $0.2222 \dots =$ _____ (fraction). |
| 6. $0.2424 \dots =$ _____ (fraction). | 31. $0.7575 \dots =$ _____ (fraction). |
| 7. $0.1111 \dots =$ _____ (fraction). | 32. $0.9666 \dots =$ _____ (fraction). |
| 8. $0.188188 \dots =$ _____ (fraction). | 33. $0.1111 \dots =$ _____ (fraction). |
| 9. $0.6888 \dots =$ _____ (fraction). | 34. $0.6363 \dots =$ _____ (fraction). |
| 10. $0.6666 \dots =$ _____ (fraction). | 35. $0.9090 \dots =$ _____ (fraction). |
| 11. $0.2888 \dots =$ _____ (fraction). | 36. $0.7777 \dots =$ _____ (fraction). |
| 12. $0.3666 \dots =$ _____ (fraction). | 37. $0.1111 \dots =$ _____ (fraction). |
| 13. $0.632632 \dots =$ _____ (fraction). | 38. $0.8888 \dots =$ _____ (fraction). |
| 14. $0.1666 \dots =$ _____ (fraction). | 39. $0.4444 \dots =$ _____ (fraction). |
| 15. $0.0222 \dots =$ _____ (fraction). | 40. $0.1333 \dots =$ _____ (fraction). |
| 16. $0.729729 \dots =$ _____ (fraction). | 41. $0.3333 \dots =$ _____ (fraction). |
| 17. $0.4444 \dots =$ _____ (fraction). | 42. $0.7373 \dots =$ _____ (fraction). |
| 18. $0.0303 \dots =$ _____ (fraction). | 43. $0.7444 \dots =$ _____ (fraction). |
| 19. $0.9111 \dots =$ _____ (fraction). | 44. $0.6666 \dots =$ _____ (fraction). |
| 20. $0.6666 \dots =$ _____ (fraction). | 45. $0.1888 \dots =$ _____ (fraction). |
| 21. $0.3333 \dots =$ _____ (fraction). | 46. $0.4444 \dots =$ _____ (fraction). |
| 22. $0.5555 \dots =$ _____ (fraction). | 47. $0.940940 \dots =$ _____ (fraction). |
| 23. $0.9191 \dots =$ _____ (fraction). | 48. $0.7777 \dots =$ _____ (fraction). |
| 24. $0.3030 \dots =$ _____ (fraction). | 49. $0.0777 \dots =$ _____ (fraction). |
| 25. $0.3333 \dots =$ _____ (fraction). | 50. $0.379379 \dots =$ _____ (fraction). |

138 Solving for x

1. If $-7x = -7$, then $x =$ _____.
2. If $4x + 5 = 11x + 40$, then $x =$ _____.
3. If $5x = 35$, then $x =$ _____.
4. If $6x = 66$, then $x =$ _____.
5. If $5x - 3 = 10x - 33$, then $x =$ _____.
6. If $12x + 1 = 10x - 11$, then $x =$ _____.
7. If $-11x = 66$, then $x =$ _____.
8. If $6x - 10 = 11x - 15$, then $x =$ _____.
9. If $4x + 5 = 6x - 19$, then $x =$ _____.
10. If $-11x = 66$, then $x =$ _____.
11. If $10x = 100$, then $x =$ _____.
12. If $4x - 4 = 2x - 6$, then $x =$ _____.
13. If $9x - 1 = 2x - 15$, then $x =$ _____.
14. If $9x + 8 = 10x + 2$, then $x =$ _____.
15. If $10x - 10 = 5x + 45$, then $x =$ _____.
16. If $-6x = -72$, then $x =$ _____.
17. If $8x - 1 = 11x - 25$, then $x =$ _____.
18. If $7x = 7$, then $x =$ _____.
19. If $7x - 7 = 5x - 5$, then $x =$ _____.
20. If $-6x = -24$, then $x =$ _____.
21. If $2x = -16$, then $x =$ _____.
22. If $7x + 9 = 12x - 41$, then $x =$ _____.
23. If $12x = -132$, then $x =$ _____.
24. If $4x - 1 = 7x - 7$, then $x =$ _____.
25. If $-12x = 132$, then $x =$ _____.
26. If $8x + 5 = 2x + 65$, then $x =$ _____.
27. If $5x - 9 = 10x - 9$, then $x =$ _____.
28. If $2x - 2 = 3x + 4$, then $x =$ _____.
29. If $10x - 4 = 9x + 2$, then $x =$ _____.
30. If $9x + 7 = 12x + 7$, then $x =$ _____.
31. If $7x - 3 = 4x - 27$, then $x =$ _____.
32. If $-2x = -22$, then $x =$ _____.
33. If $4x - 6 = 5x + 4$, then $x =$ _____.
34. If $5x - 2 = 6x + 10$, then $x =$ _____.
35. If $9x = -108$, then $x =$ _____.
36. If $6x - 5 = 10x + 15$, then $x =$ _____.
37. If $8x + 2 = 7x$, then $x =$ _____.
38. If $8x + 6 = 11x + 24$, then $x =$ _____.
39. If $9x + 9 = 7x - 5$, then $x =$ _____.
40. If $-11x = 0$, then $x =$ _____.
41. If $9x - 3 = 7x - 23$, then $x =$ _____.
42. If $2x = -8$, then $x =$ _____.
43. If $9x + 8 = 8x + 3$, then $x =$ _____.
44. If $7x + 9 = 4x - 6$, then $x =$ _____.
45. If $2x - 1 = 3x - 8$, then $x =$ _____.
46. If $6x = -48$, then $x =$ _____.
47. If $3x + 3 = 7x + 47$, then $x =$ _____.
48. If $-8x = 24$, then $x =$ _____.
49. If $-2x = 2$, then $x =$ _____.
50. If $5x + 10 = 10x + 50$, then $x =$ _____.

139 Solving Inequalities

1. If $9x - 1 > 12x - 34$, then $x < \underline{\hspace{2cm}}$.
2. If $12x - 5 > 8x - 17$, then $x > \underline{\hspace{2cm}}$.
3. If $12x < -60$, then $x < \underline{\hspace{2cm}}$.
4. If $3x - 9 \leq 12x + 45$, then $x \geq \underline{\hspace{2cm}}$.
5. If $3x \geq 36$, then $x \geq \underline{\hspace{2cm}}$.
6. If $2x - 3 < 12x + 77$, then $x > \underline{\hspace{2cm}}$.
7. If $9x + 2 < 6x + 26$, then $x < \underline{\hspace{2cm}}$.
8. If $9x \leq 27$, then $x \leq \underline{\hspace{2cm}}$.
9. If $8x < 88$, then $x < \underline{\hspace{2cm}}$.
10. If $3x < 30$, then $x < \underline{\hspace{2cm}}$.
11. If $4x < 40$, then $x < \underline{\hspace{2cm}}$.
12. If $8x < -40$, then $x < \underline{\hspace{2cm}}$.
13. If $8x \leq 16$, then $x \leq \underline{\hspace{2cm}}$.
14. If $6x - 1 \geq 4x - 15$, then $x \geq \underline{\hspace{2cm}}$.
15. If $10x > 40$, then $x > \underline{\hspace{2cm}}$.
16. If $8x > -48$, then $x > \underline{\hspace{2cm}}$.
17. If $5x \leq 8x + 33$, then $x \geq \underline{\hspace{2cm}}$.
18. If $9x - 1 \leq 10x$, then $x \geq \underline{\hspace{2cm}}$.
19. If $7x \geq -42$, then $x \geq \underline{\hspace{2cm}}$.
20. If $4x < -16$, then $x < \underline{\hspace{2cm}}$.
21. If $3x > 9$, then $x > \underline{\hspace{2cm}}$.
22. If $11x < -33$, then $x < \underline{\hspace{2cm}}$.
23. If $11x \geq 44$, then $x \geq \underline{\hspace{2cm}}$.
24. If $4x - 4 > 8x - 4$, then $x < \underline{\hspace{2cm}}$.
25. If $11x - 4 > 14x - 28$, then $x < \underline{\hspace{2cm}}$.
26. If $12x - 6 < 7x + 54$, then $x < \underline{\hspace{2cm}}$.
27. If $11x > 132$, then $x > \underline{\hspace{2cm}}$.
28. If $5x + 4 < 8x + 1$, then $x > \underline{\hspace{2cm}}$.
29. If $3x - 1 > 2x + 10$, then $x > \underline{\hspace{2cm}}$.
30. If $8x < 48$, then $x < \underline{\hspace{2cm}}$.
31. If $8x \geq -8$, then $x \geq \underline{\hspace{2cm}}$.
32. If $4x - 5 \leq 5x - 2$, then $x \geq \underline{\hspace{2cm}}$.
33. If $2x > 4$, then $x > \underline{\hspace{2cm}}$.
34. If $12x > -72$, then $x > \underline{\hspace{2cm}}$.
35. If $5x + 8 \leq 4x + 11$, then $x \leq \underline{\hspace{2cm}}$.
36. If $11x + 5 \geq 2x + 104$, then $x \geq \underline{\hspace{2cm}}$.
37. If $5x - 10 > 7x + 6$, then $x < \underline{\hspace{2cm}}$.
38. If $2x + 1 \leq 11x - 98$, then $x \geq \underline{\hspace{2cm}}$.
39. If $3x - 4 < 9x - 22$, then $x > \underline{\hspace{2cm}}$.
40. If $12x > -12$, then $x > \underline{\hspace{2cm}}$.
41. If $3x - 2 < 8x - 7$, then $x > \underline{\hspace{2cm}}$.
42. If $5x \geq 25$, then $x \geq \underline{\hspace{2cm}}$.
43. If $7x - 3 > 12x - 33$, then $x < \underline{\hspace{2cm}}$.
44. If $7x - 9 \geq 11x - 13$, then $x \leq \underline{\hspace{2cm}}$.
45. If $9x - 8 \leq 11x - 18$, then $x \geq \underline{\hspace{2cm}}$.
46. If $8x + 1 > 7x + 1$, then $x > \underline{\hspace{2cm}}$.
47. If $12x - 6 > 6x - 36$, then $x > \underline{\hspace{2cm}}$.
48. If $7x + 8 \leq 12x + 53$, then $x \geq \underline{\hspace{2cm}}$.
49. If $9x \leq 18$, then $x \leq \underline{\hspace{2cm}}$.
50. If $5x < -5$, then $x < \underline{\hspace{2cm}}$.

140 Slope and Intercepts

1. What is the slope of the line that passes through the points $(10, -6)$ and $(-12, 8)$? _____.
2. What is the slope of the line that passes through the points $(-2, -10)$ and $(-3, -6)$? _____.
3. What is the x -intercept of the line whose equation is $-4x - 11y = -9$? _____.
4. What is the slope of the line whose equation is $9x + 5y = 3$? _____.
5. What is the slope of the line that passes through the points $(0, 3)$ and $(12, -2)$? _____.
6. What is the y -intercept of the line whose equation is $-7x + 5y = 2$? _____.
7. What is the y -intercept of the line whose equation is $5x + 2y = -36$? _____.
8. What is the slope of the line whose equation is $y = -7x - 9$? _____.
9. What is the slope of the line whose equation is $7x - 2y = 0$? _____.
10. What is the slope of the line whose equation is $y = -6x - 6$? _____.
11. What is the y -intercept of the line whose equation is $-7x + 12y = 13$? _____.
12. What is the y -intercept of the line whose equation is $-8x - 10y = 8$? _____.
13. What is the slope of the line whose equation is $y = -12x - 10$? _____.
14. What is the slope of the line whose equation is $-12x - 11y = -10$? _____.
15. What is the x -intercept of the line whose equation is $x + 10y = -9$? _____.
16. What is the slope of the line whose equation is $-10x + 3y = -1$? _____.
17. What is the y -intercept of the line whose equation is $-5x - 4y = -12$? _____.
18. What is the slope of the line whose equation is $y = -3x - 10$? _____.
19. What is the slope of the line perpendicular to the line whose equation is $y = -\frac{1}{3}x + 2$? _____.
20. What is the x -intercept of the line whose equation is $5x + y = 14$? _____.
21. What is the slope of the line whose equation is $-6x - 4y = -11$? _____.
22. What is the slope of the line whose equation is $9x + 6y = 11$? _____.
23. What is the slope of the line whose equation is $4x + 11y = -4$? _____.
24. What is the y -intercept of the line whose equation is $-3x - 9y = 32$? _____.
25. What is the x -intercept of the line whose equation is $-5x - 9y = 8$? _____.
26. What is the slope of the line whose equation is $y = -10x$? _____.
27. What is the slope of the line whose equation is $11x - 8y = 4$? _____.
28. What is the slope of the line perpendicular to the line whose equation is $y = \frac{9}{10}x - 5$? _____.
29. What is the slope of the line whose equation is $y = 2x - 9$? _____.
30. What is the slope of the line that passes through the points $(14, 0)$ and $(9, 6)$? _____.

141 Working with $f(x)$

1. Find the value of $f(4)$ when $f(x) = x^2 + 24x + 144$.
_____.
2. Find the value of $f(4)$ when $f(x) = x^2 + 14x + 49$.
_____.
3. Find the value of $f(-7)$ when $f(x) = 8x + 2$.
_____.
4. Find the value of $f(-1)$ when $f(x) = -2x - 2$.
_____.
5. Find the value of $f(11)$ when $f(x) = x^2 - 16x + 64$.
_____.
6. Find the value of $f(1)$ when $f(x) = x^2 + 2x + 9$.
_____.
7. Find the value of $f(1)$ when $f(x) = x^2 + 3x + 4$.
_____.
8. Find the value of $f(4)$ when $f(x) = x^2 + 10x - 3$.
_____.
9. Find the value of $f(3)$ when $f(x) = x^2 + 20x + 100$.
_____.
10. Find the value of $f(-1)$ when $f(x) = x^2 - 3x - 2$.
_____.
11. Find the value of $f(-3)$ when $f(x) = x^2 - 24x + 144$.
_____.
12. Find the value of $f(12)$ when $f(x) = x^2 + 16x + 64$.
_____.
13. Find the value of $f(2)$ when $f(x) = 5x^2 + 9x + 1$.
_____.
14. Find the value of $f(5)$ when $f(x) = 4x^2 - 3x - 5$.
_____.
15. Find the value of $f(-2)$ when $f(x) = x^2 + 2x + 6$.
_____.
16. Find the value of $f(6)$ when $f(x) = x^2 + 5x - 2$.
_____.
17. Find the value of $f(-2)$ when $f(x) = x^2 + 14x + 49$.
_____.
18. Find the value of $f(10)$ when $f(x) = x^2 + 5x + 5$.
_____.
19. Find the value of $f(12)$ when $f(x) = x^2 - 18x + 81$.
_____.
20. Find the value of $f(0)$ when $f(x) = 2x^2 - 4x - 9$.
_____.
21. Find the value of $f(1)$ when $f(x) = x^2 + 18x + 81$.
_____.
22. Find the value of $f(9)$ when $f(x) = x^2 + 10x + 25$.
_____.
23. Find the value of $f(-3)$ when $f(x) = x^2 + 8x + 16$.
_____.
24. Find the value of $f(-3)$ when $f(x) = x^2 - 10x - 9$.
_____.
25. Find the value of $f(-7)$ when $f(x) = x^2 - 9x + 10$.
_____.
26. Find the value of $f(-7)$ when $f(x) = x^2 - 18x + 81$.
_____.
27. Find the value of $f(-1)$ when $f(x) = 10x - 3$. _____
_____.
28. Find the value of $f(12)$ when $f(x) = x^2 - 2x + 1$.
_____.
29. Find the value of $f(6)$ when $f(x) = x^2 - 12x + 36$.
_____.
30. Find the value of $f(11)$ when $f(x) = x^2 + 12x + 36$.
_____.

142 Estimations: Addition and Subtraction

1. $703 + 190 + 407 + 299 =$ _____ .
2. $713 - 812 + 1094 =$ _____ .
3. $789 + 284 + 799 + 280 =$ _____ .
4. $707 + 1317 - 1001 + 895 =$ _____ .
5. $282 + 1306 + 1003 + 1113 =$ _____ .
6. $1286 + 203 + 700 - 1219 =$ _____ .
7. $1313 + 384 + 383 + 1183 =$ _____ .
8. $787 + 1201 + 705 + 816 =$ _____ .
9. $494 + 1119 + 1019 + 516 =$ _____ .
10. $585 + 209 - 816 =$ _____ .
11. $1009 + 1190 + 913 + 788 =$ _____ .
12. $381 + 185 + 906 =$ _____ .
13. $891 + 382 + 209 + 1008 =$ _____ .
14. $283 + 482 - 702 =$ _____ .
15. $1007 + 791 - 501 =$ _____ .
16. $481 + 1319 + 388 =$ _____ .
17. $694 + 1018 + 217 =$ _____ .
18. $720 + 386 + 894 =$ _____ .
19. $897 + 1083 + 892 =$ _____ .
20. $884 + 515 + 1302 + 1193 =$ _____ .

143 Estimations: Multiplication

1. $334 \times 901 =$ _____ .
2. $331 \times 158 =$ _____ .
3. $332 \times 188 =$ _____ .
4. $625 \times 480 =$ _____ .
5. $875 \times 593 =$ _____ .
6. $335 \times 768 =$ _____ .
7. $15 \times 16 \times 17 =$ _____ .
8. $32 \times 33 \times 34 =$ _____ .
9. $125 \times 694 =$ _____ .
10. $249 \times 170 =$ _____ .
11. $330 \times 918 =$ _____ .
12. $375 \times 173 =$ _____ .
13. $90 \times 91 \times 92 =$ _____ .
14. $333 \times 928 =$ _____ .
15. $333 \times 191 =$ _____ .
16. $901 \times 304 =$ _____ .
17. $77 \times 78 \times 79 =$ _____ .
18. $795 \times 195 =$ _____ .
19. $40 \times 41 \times 42 =$ _____ .
20. $38 \times 39 \times 40 =$ _____ .

144 Estimations: 142857-type Problems

- | | |
|---------------------------------|----------------------------------|
| 1. $857 \times 124 =$ _____ . | 11. $571 \times 824 =$ _____ . |
| 2. $71428 \times 248 =$ _____ . | 12. $286 \times 402 =$ _____ . |
| 3. $7143 \times 454 =$ _____ . | 13. $714 \times 178 =$ _____ . |
| 4. $1428 \times 634 =$ _____ . | 14. $42857 \times 583 =$ _____ . |
| 5. $4286 \times 116 =$ _____ . | 15. $57143 \times 642 =$ _____ . |
| 6. $429 \times 98 =$ _____ . | 16. $42857 \times 591 =$ _____ . |
| 7. $286 \times 46 =$ _____ . | 17. $71428 \times 109 =$ _____ . |
| 8. $714 \times 473 =$ _____ . | 18. $14285 \times 63 =$ _____ . |
| 9. $42857 \times 353 =$ _____ . | 19. $57143 \times 879 =$ _____ . |
| 10. $1428 \times 306 =$ _____ . | 20. $857 \times 390 =$ _____ . |

145 Estimations: Division

- | | |
|---------------------------------|---------------------------------|
| 1. $285200 \div 775 =$ _____ . | 11. $157675 \div 175 =$ _____ . |
| 2. $395080 \div 476 =$ _____ . | 12. $206944 \div 892 =$ _____ . |
| 3. $499140 \div 564 =$ _____ . | 13. $149141 \div 527 =$ _____ . |
| 4. $138688 \div 352 =$ _____ . | 14. $420452 \div 514 =$ _____ . |
| 5. $644964 \div 852 =$ _____ . | 15. $388948 \div 958 =$ _____ . |
| 6. $149152 \div 316 =$ _____ . | 16. $525512 \div 806 =$ _____ . |
| 7. $431984 \div 464 =$ _____ . | 17. $676033 \div 787 =$ _____ . |
| 8. $148897 \div 623 =$ _____ . | 18. $469929 \div 489 =$ _____ . |
| 9. $295887 \div 537 =$ _____ . | 19. $75828 \div 89 =$ _____ . |
| 10. $217971 \div 351 =$ _____ . | 20. $182628 \div 342 =$ _____ . |

146 Estimations: Exponents

1. $35^3 =$ _____ .
2. $13^3 =$ _____ .
3. $23^5 =$ _____ .
4. $14^5 =$ _____ .
5. $22^4 =$ _____ .
6. $23^4 =$ _____ .
7. $35^5 =$ _____ .
8. $29^5 =$ _____ .
9. $34^4 =$ _____ .
10. $12^5 =$ _____ .
11. $34^3 =$ _____ .
12. $7^8 =$ _____ .
13. $18^3 =$ _____ .
14. $14^3 =$ _____ .
15. $9^5 =$ _____ .
16. $21^3 =$ _____ .
17. $5^4 \times 7^4 =$ _____ .
18. $12^3 \times 3^4 =$ _____ .
19. $14^3 \times 4^5 =$ _____ .
20. $24^5 \div 2^6 =$ _____ .

147 Estimations: Square Roots

1. $\sqrt{144319} =$ _____ .
2. $\sqrt{910251} =$ _____ .
3. $\sqrt{891866} =$ _____ .
4. $\sqrt{869147} =$ _____ .
5. $\sqrt{179198} =$ _____ .
6. $\sqrt{251795} =$ _____ .
7. $\sqrt{1128798} =$ _____ .
8. $\sqrt{410091} =$ _____ .
9. $\sqrt{220409} =$ _____ .
10. $\sqrt{449947} =$ _____ .
11. $\sqrt{967575} =$ _____ .
12. $\sqrt{1015713} =$ _____ .
13. $\sqrt{585768} =$ _____ .
14. $\sqrt{1029926} =$ _____ .
15. $\sqrt{453137} =$ _____ .
16. $\sqrt{1118533} =$ _____ .
17. $\sqrt{780320} =$ _____ .
18. $\sqrt{1047274} =$ _____ .
19. $\sqrt{774092} =$ _____ .
20. $\sqrt{556012} =$ _____ .

148 Estimations: Working with pi

1. $9\pi^5 =$ _____ .
2. $14\pi^5 =$ _____ .
3. $23\pi^4 =$ _____ .
4. $2\pi^6 =$ _____ .
5. $8\pi^5 =$ _____ .
6. $5\pi^5 =$ _____ .
7. $7\pi^7 =$ _____ .
8. $6\pi^3 =$ _____ .
9. $10\pi^4 =$ _____ .
10. $11\pi^2 =$ _____ .
11. $7\pi^2 =$ _____ .
12. $14\pi^8 =$ _____ .
13. $3\pi^3 =$ _____ .
14. $10\pi^5 =$ _____ .
15. $13\pi^3 =$ _____ .
16. $12\pi^8 =$ _____ .
17. $4\pi^4 =$ _____ .
18. $5\pi^8 =$ _____ .
19. $6\pi^4 =$ _____ .
20. $9\pi^6 =$ _____ .

Answers

1 Addition

1. 78	9. 84	18. 144	27. 1056	36. 808	45. 15936
2. 123	10. 71	19. 139	28. 1033	37. 1473	
3. 117	11. 109	20. 160	29. 775	38. 815	46. 5789
4. 48	12. 185	21. 137	30. 1023	39. 483	47. 13442
5. 88	13. 139	22. 98	31. 1107	40. 995	
6. 67	14. 85	23. 64	32. 1247	41. 6622	48. 12050
7. 114	15. 166	24. 101	33. 769	42. 8981	49. 17058
8. 124	16. 33	25. 130	34. 1511	43. 18070	
	17. 70	26. 1220	35. 1250	44. 16024	50. 10992

2 Subtraction

1. 15	9. 72	18. 6	27. 146	36. 53	45. 3700
2. 18	10. 29	19. 6	28. 463	37. 31	
3. 49	11. 36	20. 7	29. 92	38. 492	46. 5683
4. 9	12. 26	21. 14	30. 13	39. 55	47. 2502
5. 16	13. 55	22. 22	31. 669	40. 254	
6. 7	14. 67	23. 71	32. 122	41. 5	48. 3493
7. 20	15. 33	24. 37	33. 778	42. 1191	49. 3832
8. 27	16. 7	25. 14	34. 203	43. 4479	
	17. 38	26. 427	35. 14	44. 537	50. 5078

3 Multiplication

1. 128	9. 135	18. 90	27. 800000	36. 20000	45. 1200
2. 112	10. 72	19. 91	28. 90000	37. 480	
3. 104	11. 95	20. 56	29. 4000	38. 6000000	46. 900000
4. 64	12. 75	21. 60	30. 56000	39. 1400000	47. 70000
5. 48	13. 72	22. 72	31. 56000	40. 1200000	
6. 108	14. 90	23. 40	32. 27000	41. 2400000	48. 300000
7. 64	15. 40	24. 36	33. 720000	42. 160	49. 490000
8. 36	16. 42	25. 96	34. 480000	43. 240000	
	17. 20	26. 4800	35. 200000	44. 300000	50. 24000

4 Division

1. 4	9. 15	18. 6	27. 30	36. 120	45. 70
2. 7	10. 11	19. 8	28. 40	37. 700	
3. 4	11. 4	20. 7	29. 300	38. 400	46. 11000
4. 11	12. 7	21. 6	30. 400	39. 30	47. 1100
5. 4	13. 7	22. 16	31. 30	40. 600	
6. 14	14. 10	23. 4	32. 50	41. 12000	48. 300
7. 7	15. 8	24. 11	33. 12000	42. 30	49. 40
8. 10	16. 12	25. 6	34. 20	43. 200	
	17. 5	26. 700	35. 70	44. 20	50. 20

5 Multiplying and Dividing Three Numbers

1. 150	9. 385	18. 484	27. 7	36. 11	45. 7
2. 450	10. 480	19. 96	28. 9	37. 3	
3. 160	11. 700	20. 792	29. 7	38. 11	46. 9
4. 252	12. 200	21. 135	30. 3	39. 5	47. 11
5. 480	13. 384	22. 720	31. 9	40. 2	
6. 168	14. 224	23. 132	32. 8	41. 6	48. 8
7. 384	15. 240	24. 720	33. 9	42. 3	49. 8
8. 168	16. 250	25. 216	34. 10	43. 9	
	17. 756	26. 10	35. 5	44. 4	50. 2

6 Multiplication and Division Mixed

1. 81	10. 81	19. 108	28. 14	37. 10	46. 40
2. 18	11. 50	20. 15	29. 90	38. 36	
3. 18	12. 72	21. 24	30. 24	39. 42	47. 4
4. 21	13. 27	22. 14	31. 16	40. 77	
5. 30	14. 35	23. 24	32. 84	41. 21	48. 60
6. 18	15. 33	24. 84	33. 108	42. 28	
7. 84	16. 20	25. 24	34. 22	43. 28	49. 120
8. 49	17. 16	26. 35	35. 99	44. 30	
9. 36	18. 24	27. 60	36. 35	45. 48	50. 12

7 Multiplication by 11

1. 264	9. 1056	17. 396	26. 176	35. 4213	44. 6204
2. 671	10. 418	18. 374	27. 759	36. 10307	45. 4147
3. 385	11. 297	19. 616	28. 451	37. 10384	46. 4422
4. 1045	12. 396	20. 517	29. 253	38. 9702	47. 10527
5. 594	13. 209	21. 1089	30. 473	39. 7898	48. 2365
6. 1023	14. 154	22. 363	31. 6446	40. 9592	49. 7348
7. 1078	15. 737	23. 231	32. 3014	41. 1562	50. 10505
8. 1001	16. 902	24. 572	33. 8514	42. 1859	
		25. 462	34. 4356	43. 2013	

8 Multiplication by 25

1. 1725	9. 1300	18. 1150	27. 1375	35. 8975	43. 19450
2. 800	10. 1225	19. 1675	28. 1925	36. 4275	44. 21225
3. 1475	11. 1850	20. 325	29. 1475	37. 8375	45. 12800
4. 450	12. 625	21. 2175	30. 2125	38. 6325	46. 6200
5. 2275	13. 375	22. 1075	31. 7875	39. 16300	47. 6150
6. 600	14. 1600	23. 1325	32. 13150	40. 20625	48. 22675
7. 2425	15. 2025	24. 1375	33. 20400	41. 7800	49. 7425
8. 1150	16. 1875	25. 450	34. 3550	42. 24625	50. 19175
	17. 2225	26. 650			

9 Multiplication by 50

1. 3800	9. 4750	17. 2900	26. 1650	34. 19600	43. 18800
2. 2100	10. 2250	18. 750	27. 4350	35. 20400	44. 47100
3. 3100	11. 3550	19. 4450	28. 3600	36. 45300	45. 44750
4. 2900	12. 4850	20. 3150	29. 1450	37. 29900	46. 40900
5. 750	13. 3850	21. 3600	30. 4250	38. 20600	47. 26600
6. 800	14. 1350	22. 4750	31. 28050	39. 42350	48. 44550
7. 3350	15. 2900	23. 3950	32. 35250	40. 38950	49. 28200
8. 2350	16. 4100	24. 800	33. 6600	41. 21050	50. 37050
		25. 2850		42. 16400	

10 Roman Numerals

1. 66	9. 89	18. 49	27. 68	36. 831	45. 2934
2. 19	10. 96	19. 82	28. 48	37. 2368	46. 1065
3. 67	11. 82	20. 61	29. 65	38. 1552	47. 664
4. 37	12. 30	21. 57	30. 86	39. 1997	48. 2526
5. 24	13. 48	22. 97	31. 410	40. 1913	49. 199
6. 60	14. 20	23. 47	32. 1056	41. 297	50. 1200
7. 84	15. 40	24. 18	33. 2238	42. 845	
8. 56	16. 26	25. 76	34. 2684	43. 2808	
	17. 88	26. 14	35. 1053	44. 1787	

11 Roman Numerals with Operations

1. 12	9. 13	18. 4	26. 91	35. 34	43. 9
2. 128	10. 135	19. 84	27. 8	36. 5	44. 6
3. 63	11. 49	20. 84	28. 105	37. 80	45. 39
4. 117	12. 128	21. 95	29. 72	38. 144	46. 60
5. 55	13. 11	22. 60	30. 7	39. 76	47. 58
6. 55	14. 80	23. 32	31. 75	40. 46	48. 24
7. 26	15. 76	24. 42	32. 43	41. 36	49. 16
8. 53	16. 25	25. 112	33. 9	42. 88	50. 5
	17. 23		34. 72		

12 Place Values

1. 6	5. 7	9. 9	13. 1	17. 7
2. 3	6. 3	10. 6	14. 2	18. 0
3. 1	7. 3	11. 5	15. 3	19. 7
4. 6	8. 4	12. 5	16. 0	20. 3

13 Rounding Numbers

1. 43662	5. 8915.6	9. 829000	13. 918.5	17. 41370
2. 635000	6. .398	10. 211.68	14. 10000	18. 5404
3. 8481.9	7. 25.56	11. 8460	15. 93800	19. 6.37
4. 910000	8. 94590	12. .4498	16. 24.5	20. 618.4

14 Expanded Notation

1. 4739	9. 158	18. 7578	27. 246	36. 4349	45. 408
2. 761	10. 620	19. 3803	28. 2185	37. 6403	46. 7703
3. 457	11. .973	20. 3230	29. 786	38. .765	47. 8261
4. 420	12. 401	21. 6043	30. 202	39. 1031	48. 5350
5. 601	13. 3740	22. 1663	31. 8023	40. 9202	49. .977
6. 178	14. 5609	23. 6084	32. 4870	41. 7160	50. 1927
7. 732	15. 355	24. 9537	33. 508	42. 984	
8. 117	16. 9443	25. 9980	34. 7375	43. 7034	
	17. 366	26. 5680	35. .435	44. 7114	

15 Multiplication by 12

1. 420	9. 396	17. 948	26. 888	35. 6864	44. 8124
2. 1104	10. 1092	18. 984	27. 1056	36. 7608	45. 4836
3. 876	11. 1044	19. 744	28. 684	37. 6936	46. 3072
4. 192	12. 384	20. 492	29. 276	38. 2796	47. 8316
5. 780	13. 300	21. 876	30. 1116	39. 5556	48. 10848
6. 288	14. 324	22. 972	31. 3972	40. 3324	49. 2712
7. 1188	15. 1140	23. 1176	32. 7176	41. 2436	50. 5208
8. 624	16. 1044	24. 408	33. 1404	42. 9408	
		25. 588	34. 11676	43. 8700	

16 Remainders (division by 2)

1. 1	5. 0	9. 1	13. 1	17. 0
2. 1	6. 0	10. 1	14. 0	18. 0
3. 0	7. 0	11. 0	15. 1	19. 0
4. 1	8. 0	12. 1	16. 1	20. 0

17 Remainders (division by 3)

1. 1	5. 0	9. 1	13. 0	17. 1
2. 0	6. 2	10. 1	14. 0	18. 1
3. 2	7. 2	11. 1	15. 2	19. 1
4. 1	8. 0	12. 1	16. 2	20. 1

18 Remainders (division by 4)

1. 0	5. 2	9. 1	13. 1	17. 0
2. 2	6. 0	10. 2	14. 2	18. 0
3. 2	7. 2	11. 1	15. 3	19. 3
4. 2	8. 1	12. 1	16. 2	20. 3

19 Remainders (division by 5)

1. 0	5. 0	9. 0	13. 0	17. 0
2. 4	6. 3	10. 4	14. 1	18. 1
3. 2	7. 3	11. 4	15. 2	19. 3
4. 1	8. 1	12. 2	16. 4	20. 2

20 Remainders (division by 8)

1. 2	5. 6	9. 4	13. 5	17. 0
2. 5	6. 7	10. 5	14. 4	18. 4
3. 7	7. 0	11. 4	15. 1	19. 3
4. 7	8. 4	12. 4	16. 4	20. 5

21 Remainders (division by 9)

1. 4	5. 0	9. 4	13. 3	17. 0
2. 1	6. 8	10. 0	14. 4	18. 4
3. 7	7. 3	11. 2	15. 8	19. 4
4. 7	8. 8	12. 7	16. 0	20. 6

22 Remainders (division by 11)

1. 8	5. 2	9. 4	13. 9	17. 5
2. 1	6. 5	10. 2	14. 4	18. 7
3. 9	7. 8	11. 6	15. 3	19. 7
4. 9	8. 9	12. 9	16. 5	20. 3

23 Remainders in general

1. 4	5. 8	9. 2	13. 3	17. 2
2. 8	6. 0	10. 2	14. 3	18. 4
3. 3	7. 0	11. 0	15. 2	19. 3
4. 0	8. 4	12. 4	16. 5	20. 2

24 Division with multiples

- | | | | | |
|--------|--------|--------|--------|---------|
| 1. 405 | 3. 502 | 5. 205 | 7. 102 | 9. 108 |
| 2. 103 | 4. 101 | 6. 602 | 8. 404 | 10. 703 |

25 Adding Numbers in Sequence (short)

- | | | | | | |
|--------|---------|---------|----------|-----------|----------|
| 1. 96 | 8. 80 | 15. 60 | 22. 1520 | 29. 312 | 36. 1020 |
| 2. 80 | 9. 51 | 16. 57 | 23. 275 | 30. 236 | 37. 470 |
| 3. 150 | 10. 30 | 17. 54 | 24. 875 | 31. 19175 | |
| 4. 210 | 11. 120 | 18. 50 | 25. 252 | 32. 2835 | 38. 432 |
| 5. 177 | 12. 252 | 19. 125 | 26. 405 | 33. 204 | 39. 1240 |
| 6. 110 | 13. 185 | 20. 111 | 27. 524 | 34. 294 | |
| 7. 135 | 14. 80 | 21. 160 | 28. 420 | 35. 5400 | 40. 259 |

26 Odd and Even Numbers

- | | | | | |
|------|------|-------|-------|--------|
| 1. 4 | 3. 4 | 5. 11 | 7. 12 | 9. 4 |
| 2. 6 | 4. 9 | 6. 16 | 8. 12 | 10. 11 |

27 Squares (1-20)

- | | | | | | |
|--------|---------|---------|---------|---------|---------|
| 1. 64 | 9. 256 | 18. 121 | 27. 289 | 36. 196 | 45. 256 |
| 2. 100 | 10. 121 | 19. 144 | 28. 256 | 37. 100 | 46. 324 |
| 3. 169 | 11. 16 | 20. 81 | 29. 64 | 38. 16 | |
| 4. 225 | 12. 400 | 21. 1 | 30. 9 | 39. 289 | 47. 16 |
| 5. 324 | 13. 361 | 22. 49 | 31. 4 | 40. 81 | |
| 6. 9 | 14. 16 | 23. 100 | 32. 256 | 41. 169 | 48. 361 |
| 7. 25 | 15. 36 | 24. 169 | 33. 25 | 42. 4 | 49. 289 |
| 8. 1 | 16. 361 | 25. 16 | 34. 81 | 43. 49 | |
| | 17. 4 | 26. 400 | 35. 361 | 44. 121 | 50. 324 |

28 Square Roots (1-20)

1. 19	9. 7	17. 2	25. 5	33. 18	41. 5	49. 13
2. 18	10. 16	18. 4	26. 14	34. 6	42. 6	50. 4
3. 2	11. 5	19. 6	27. 15	35. 15	43. 9	
4. 15	12. 12	20. 16	28. 3	36. 8	44. 15	
5. 6	13. 20	21. 10	29. 11	37. 20	45. 19	
6. 8	14. 17	22. 8	30. 5	38. 19	46. 14	
7. 4	15. 14	23. 1	31. 20	39. 16	47. 17	
8. 13	16. 5	24. 12	32. 13	40. 3	48. 9	

29 Multiplication by 75

1. 2250	9. 3225	17. 1950	26. 4500	35. 1800	44. 3975
2. 1800	10. 5475	18. 5325	27. 2025	36. 2025	45. 7350
3. 5100	11. 3675	19. 3600	28. 1275	37. 3375	46. 1950
4. 5625	12. 4425	20. 3900	29. 3000	38. 5250	47. 7425
5. 3600	13. 7200	21. 6600	30. 2700	39. 5475	48. 2625
6. 1200	14. 5925	22. 1875	31. 5775	40. 7275	49. 4275
7. 6150	15. 6675	23. 7125	32. 825	41. 600	50. 6525
8. 1350	16. 2625	24. 4125	33. 4200	42. 825	
		25. 1425	34. 3675	43. 2700	

30 Multiplying Two Numbers with Ones Digits Sum of 10, Same Tens Digits

1. 2009	9. 5621	17. 9016	26. 7209	34. 2009	43. 224
2. 621	10. 2016	18. 621	27. 209	35. 7209	44. 609
3. 216	11. 9025	19. 3021	28. 2021	36. 625	45. 1221
4. 5616	12. 5624	20. 4209	29. 1209	37. 1216	46. 9009
5. 216	13. 3024	21. 7224	30. 4221	38. 5609	47. 4209
6. 2021	14. 7216	22. 1225	31. 3021	39. 209	48. 5616
7. 3016	15. 9021	23. 1224	32. 9009	40. 7225	49. 1225
8. 7224	16. 1216	24. 621	33. 4225	41. 4224	50. 9021
		25. 624		42. 7221	

31 Multiplying Two Digits Numbers (LOIF)

1. 1274	9. 3876	18. 8330	27. 4655	36. 840	45. 5934
2. 4160	10. 1664	19. 1767	28. 1395	37. 1505	46. 3696
3. 3784	11. 3431	20. 4074	29. 897	38. 4275	47. 1242
4. 2210	12. 6348	21. 4416	30. 945	39. 3496	48. 1088
5. 1722	13. 6708	22. 3724	31. 364	40. 6885	49. 5192
6. 448	14. 1134	23. 3905	32. 1330	41. 2583	50. 1736
7. 7332	15. 3526	24. 987	33. 1785	42. 1296	
8. 7857	16. 8091	25. 7614	34. 2208	43. 7410	
	17. 2464	26. 1888	35. 3055	44. 1064	

32 Multiplying Two Numbers with Both Numbers Close to and Greater Than 100

1. 11235	9. 10302	18. 11024	27. 10201	35. 11449	44. 11118
2. 10815	10. 11118	19. 11016	28. 11130	36. 11009	45. 10710
3. 11772	11. 10710	20. 11554	29. 10605	37. 10908	46. 10706
4. 10608	12. 10302	21. 11663	30. 11336	38. 10920	47. 11554
5. 11448	13. 11336	22. 10403	31. 11554	39. 10302	48. 11663
6. 11449	14. 11128	23. 10918	32. 11445	40. 11336	49. 10816
7. 11235	15. 11130	24. 11025	33. 11342	41. 11236	50. 11554
8. 11772	16. 10710	25. 10605	34. 10812	42. 10920	
	17. 11016	26. 11336	43. 10710		

33 Multiplying Two Numbers with Both Numbers Close to and Less Than 100

1. 9306	9. 8918	17. 9216	26. 9506	35. 9207	44. 8924
2. 9025	10. 9504	18. 8556	27. 9504	36. 9702	45. 9024
3. 9215	11. 8827	19. 8281	28. 9409	37. 8742	46. 9114
4. 9604	12. 9306	20. 8648	29. 9118	38. 8742	47. 9312
5. 9118	13. 8740	21. 9118	30. 9212	39. 9312	48. 9408
6. 9603	14. 9604	22. 8649	31. 8742	40. 8554	49. 8281
7. 8645	15. 9603	23. 9009	32. 9024	41. 9025	50. 8645
8. 8736	16. 8648	24. 9405	33. 8928	42. 8645	
		25. 8835	34. 8736	43. 8372	

34 Squares (21-30)

1. 676	5. 729	9. 484	13. 484	17. 625	21. 676
2. 784	6. 625	10. 441	14. 529	18. 784	22. 841
3. 529	7. 576	11. 900	15. 841	19. 484	23. 441
4. 841	8. 784	12. 576	16. 441	20. 729	24. 625

35 Square Roots (21-30)

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

36 Multiplying Two Numbers Centered Around a Third Number (x10)

1. 2464	10. 1575	19. 8051	28. 1551	37. 3564	46. 1584
2. 3551	11. 8051	20. 6396	29. 2436	38. 319	
3. 2484	12. 3519	21. 6364	30. 864	39. 391	47. 319
4. 375	13. 864	22. 364	31. 875	40. 8096	
5. 6336	14. 891	23. 1536	32. 6375	41. 4864	48. 4891
6. 2491	15. 6319	24. 1519	33. 6336	42. 1536	
7. 4891	16. 899	25. 6375	34. 8084	43. 884	49. 8084
8. 391	17. 6319	26. 8084	35. 6364	44. 4884	
9. 8064	18. 6351	27. 8075	36. 1596	45. 2491	50. 2436

37 Multiplying Two Numbers Centered Around a Third Number (any)

1. 520	5. 667	9. 255	13. 672	17. 216	21. 672
2. 660	6. 840	10. 468	14. 520	18. 621	22. 560
3. 840	7. 728	11. 320	15. 483	19. 192	23. 396
4. 675	8. 575	12. 399	16. 480	20. 216	24. 675

38 Difference of Two Squares

1. 396	5. 1160	9. 891	13. 4560	17. 2464	21. 2236
2. 1400	6. 2484	10. 1133	14. 3825	18. 2975	22. 2520
3. 440	7. 315	11. 31	15. 87	19. 2520	23. 8280
4. 1683	8. 3528	12. 2000	16. 1991	20. 4851	24. 851

39 Multiplying Two Numbers Ending in 5

- | | | | | | |
|---------|---------|----------|----------|----------|----------|
| 1. 6175 | 5. 5525 | 9. 1125 | 13. 5525 | 17. 1125 | 21. 6175 |
| 2. 3325 | 6. 1875 | 10. 6375 | 14. 1925 | 18. 5525 | 22. 1625 |
| 3. 1875 | 7. 3375 | 11. 2625 | 15. 675 | 19. 975 | 23. 1275 |
| 4. 1275 | 8. 6175 | 12. 1125 | 16. 975 | 20. 375 | 24. 875 |

40 Prime Numbers (how many?)

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

41 Prime Numbers (prev/next?)

- | | | | | | |
|-------|-------|-------|-------|--------|--------|
| 1. 67 | 3. 73 | 5. 53 | 7. 83 | 9. 17 | 11. 71 |
| 2. 71 | 4. 89 | 6. 47 | 8. 11 | 10. 23 | 12. 61 |

42 Positive Integral Divisors (how many?)

- | | | | | | |
|------|-------|-------|-------|-------|--------|
| 1. 6 | 5. 4 | 9. 12 | 13. 4 | 17. 8 | 21. 8 |
| 2. 6 | 6. 12 | 10. 3 | 14. 2 | 18. 6 | 22. 12 |
| 3. 6 | 7. 2 | 11. 4 | 15. 8 | 19. 3 | 23. 8 |
| 4. 2 | 8. 6 | 12. 6 | 16. 4 | 20. 3 | 24. 2 |

43 Positive Integral Divisors (sum)

- | | | | | | |
|--------|--------|---------|---------|---------|---------|
| 1. 72 | 6. 156 | 11. 120 | 16. 15 | 21. 96 | 26. 144 |
| 2. 195 | 7. 42 | 12. 168 | 17. 224 | 22. 12 | 27. 31 |
| 3. 234 | 8. 42 | 13. 24 | 18. 144 | 23. 40 | 28. 40 |
| 4. 78 | 9. 40 | 14. 57 | 19. 24 | 24. 171 | 29. 104 |
| 5. 72 | 10. 31 | 15. 127 | 20. 48 | 25. 121 | 30. 56 |

44 Greatest Common Divisor (GCD)

- | | | | | | |
|-------|-------|-------|--------|--------|--------|
| 1. 14 | 5. 4 | 9. 43 | 13. 61 | 17. 2 | 21. 5 |
| 2. 9 | 6. 12 | 10. 4 | 14. 2 | 18. 13 | 22. 3 |
| 3. 2 | 7. 2 | 11. 2 | 15. 2 | 19. 5 | 23. 5 |
| 4. 1 | 8. 3 | 12. 1 | 16. 4 | 20. 1 | 24. 28 |

45 Least Common Multiple (LCM)

1. 520	5. 270	9. 728	13. 108	17. 208	21. 175
2. 540	6. 176	10. 84	14. 110	18. 36	22. 260
3. 336	7. 144	11. 24	15. 416	19. 88	23. 783
4. 120	8. 176	12. 210	16. 312	20. 30	24. 42

46 Metric Conversions

1. 861	9. 807	18. 64500000	27. 4520	35. .00349	44. 1590000
2. 1300	10. .0017	19. 33.5	28. .0845	36. .0309	45. .00375
3. .919	11. 908	20. 8000	29. 51.4	37. 32.8	46. 3610
4. 780	12. 99500	21. 947	30. 1910000	38. 4260	47. 843000
5. 346	13. 28500	22. 391000	31. .00466	39. 6800	48. .000004
6. 16.1	14. 2270	23. .00558	32. .0836	40. .906	49. 286
7. 73800	15. 2.71	24. 1830	33. 8.02	41. .0898	50. 64.2
8. 3.23	16. 56.5	25. 91800	34. 58100000	42. 4190	
	17. 12	26. 3340	43. .0068		

47 English Conversions – Length

1. 8	5. 72	9. 42240	13. 24	17. 15840
2. 36960	6. 324	10. 6	14. 31680	18. 3520
3. 2	7. 14080	11. 9	15. 26400	19. 10
4. 8	8. 21120	12. 2	16. 3	20. 2

48 English Conversions – Weight

1. 2	5. 8	9. 22	13. 9	17. 176
2. 72000	6. 224	10. 35	14. 16	18. 46000
3. 2	7. 60000	11. 48	15. 2	19. 160
4. 10	8. 80000	12. 23	16. 4000	20. 92000

49 English Conversions – Volume

1. 11	5. 11	9. 9	13. 288	17. 2
2. 11	6. 768	10. 8	14. 1536	18. 3
3. 32	7. 8	11. 112	15. 128	19. 8
4. 384	8. 72	12. 8	16. 160	20. 512

50 English Conversions – Time

- | | | | | |
|--------|----------|---------|---------|-----------|
| 1. 180 | 5. 5 | 9. 600 | 13. 300 | 17. 28800 |
| 2. 9 | 6. 28800 | 10. 264 | 14. 3 | 18. 6 |
| 3. 4 | 7. 6 | 11. 2 | 15. 4 | 19. 120 |
| 4. 72 | 8. 48 | 12. 288 | 16. 264 | 20. 39600 |

51 English Conversions – Money

- | | | | | |
|--------|--------|---------|--------|--------|
| 1. 280 | 5. 217 | 9. 10 | 13. 14 | 17. 50 |
| 2. 10 | 6. 53 | 10. 40 | 14. 2 | 18. 9 |
| 3. 14 | 7. 72 | 11. 450 | 15. 10 | 19. 7 |
| 4. 47 | 8. 5 | 12. 19 | 16. 18 | 20. 4 |

52 Sequences

- | | | | | | |
|--------|--------|--------|---------|---------|--------|
| 1. 43 | 4. 216 | 7. 26 | 10. 216 | 13. 730 | 16. 50 |
| 2. 400 | 5. 341 | 8. 121 | 11. 196 | 14. 39 | 17. 25 |
| 3. 170 | 6. 58 | 9. 42 | 12. 48 | 15. 144 | 18. 56 |

53 Sum of Consecutive Whole Numbers

- | | | | | |
|---------|---------|----------|---------|---------|
| 1. 21 | 5. 210 | 9. 259 | 13. 36 | 17. 145 |
| 2. 45 | 6. 115 | 10. 264 | 14. 120 | 18. 165 |
| 3. 1770 | 7. 3240 | 11. 170 | 15. 210 | 19. 221 |
| 4. 75 | 8. 1770 | 12. 3160 | 16. 820 | 20. 66 |

54 Sum of Odd Whole Numbers

- | | | | | |
|---------|--------|---------|---------|----------|
| 1. 221 | 5. 209 | 9. 140 | 13. 209 | 17. 117 |
| 2. 195 | 6. 192 | 10. 225 | 14. 216 | 18. 253 |
| 3. 841 | 7. 169 | 11. 308 | 15. 255 | 19. 1681 |
| 4. 2209 | 8. 336 | 12. 392 | 16. 275 | 20. 771 |

55 Order of Operations

1. 91	9. 13	17. 29	26. 88	35. 57	44. 14
2. 22	10. 20	18. 18	27. 33	36. 13	45. 35
3. 54	11. 11	19. 9	28. 28	37. 153	46. 41
4. 12	12. 17	20. 13	29. 36	38. 164	47. 86
5. 26	13. 18	21. 17	30. 13	39. 26	48. 37
6. 22	14. 31	22. 98	31. 40	40. 50	49. 6
7. 10	15. 13	23. 63	32. 45	41. 85	50. 4
8. 24	16. 55	24. 21	33. 18	42. 8	
		25. 14	34. 56	43. 48	

56 Squares (31-40)

1. 1296	5. 1024	9. 1521	13. 1156	17. 1296
2. 1089	6. 1225	10. 1225	14. 1024	18. 1369
3. 1156	7. 961	11. 1521	15. 1521	19. 961
4. 1521	8. 1089	12. 961	16. 1444	20. 1444

57 Squares (41-50)

1. 1936	5. 2304	9. 1681	13. 2025	17. 2304
2. 2304	6. 2116	10. 2025	14. 1681	18. 1764
3. 2401	7. 1849	11. 1764	15. 2025	19. 2209
4. 2209	8. 1764	12. 2116	16. 1849	20. 1681

58 Squares (51-60)

1. 3136	5. 2601	9. 3249	13. 2601	17. 3249
2. 3600	6. 2809	10. 3025	14. 3481	18. 2704
3. 2704	7. 3481	11. 3136	15. 2809	19. 2916
4. 2916	8. 2916	12. 3600	16. 3025	20. 2601

59 Squares of Numbers Ending in 5

1. 225	5. 625	9. 3025	13. 9025	17. 1225
2. 1225	6. 5625	10. 5625	14. 4225	18. 4225
3. 5625	7. 225	11. 2025	15. 3025	19. 7225
4. 3025	8. 4225	12. 5625	16. 2025	20. 2025

60 Cubes (1-12)

- | | | | | |
|---------|--------|----------|----------|----------|
| 1. 216 | 5. 512 | 9. 64 | 13. 1 | 17. 1728 |
| 2. 1000 | 6. 8 | 10. 1331 | 14. 512 | 18. 512 |
| 3. 343 | 7. 27 | 11. 8 | 15. 1331 | 19. 729 |
| 4. 1728 | 8. 729 | 12. 27 | 16. 343 | 20. 27 |

61 Common Fractions to Percents

- | | | | | | |
|--------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| 1. $14\frac{2}{7}$ | 10. $27\frac{3}{11}$ | 18. $54\frac{6}{11}$ | 26. $42\frac{6}{7}$ | 35. $45\frac{5}{11}$ | 43. $11\frac{1}{9}$ |
| 2. $33\frac{1}{3}$ | 11. $85\frac{5}{7}$ | 19. 50 | 27. $16\frac{2}{3}$ | 36. $27\frac{3}{11}$ | 44. $88\frac{8}{9}$ |
| 3. 10 | 12. 75 | 20. $11\frac{1}{9}$ | 28. $88\frac{8}{9}$ | 37. $42\frac{6}{7}$ | 45. $91\frac{2}{3}$ |
| 4. $33\frac{1}{3}$ | 13. 75 | 21. $16\frac{2}{3}$ | 29. $27\frac{3}{11}$ | 38. 50 | 46. $83\frac{1}{3}$ |
| 5. 50 | 14. 60 | 22. $41\frac{2}{3}$ | 30. $91\frac{2}{3}$ | 39. $91\frac{2}{3}$ | 47. 90 |
| 6. $16\frac{2}{3}$ | 15. $77\frac{7}{9}$ | 23. 75 | 31. 70 | 40. $58\frac{1}{3}$ | 48. $33\frac{1}{3}$ |
| 7. 25 | 16. $12\frac{1}{2}$ | 24. $16\frac{2}{3}$ | 32. $57\frac{1}{7}$ | 41. $37\frac{1}{2}$ | 49. $12\frac{1}{2}$ |
| 8. $44\frac{4}{9}$ | 17. $33\frac{1}{3}$ | 25. $91\frac{2}{3}$ | 33. 25 | 42. $58\frac{1}{3}$ | 50. 20 |
| 9. 70 | | | 34. 30 | | |

62 Changing Decimals, Percents, and Fractions

- | | | | | | |
|---------------------|---------------------|----------------------|---------|---------------------|---------------------|
| 1. $\frac{13}{100}$ | 9. $\frac{99}{100}$ | 18. 70 | 26. 60 | 35. $\frac{33}{50}$ | 43. $\frac{49}{50}$ |
| 2. 93 | 10. 88 | 19. $\frac{37}{50}$ | 27. .8 | 36. 33 | 44. 399 |
| 3. 84 | 11. .51 | 20. $\frac{37}{100}$ | 28. 954 | 37. 921 | 45. 978 |
| 4. 664 | 12. 4 | 21. $\frac{29}{50}$ | 29. 283 | 38. .44 | 46. 696 |
| 5. .58 | 13. 917 | 22. 284 | 30. 489 | 39. 988 | 47. 517 |
| 6. 192 | 14. 23 | 23. 353 | 31. .6 | 40. 757 | 48. 24 |
| 7. .69 | 15. 972 | 24. .45 | 32. 871 | 41. $\frac{9}{25}$ | 49. 59 |
| 8. .59 | 16. .91 | 25. 92 | 33. .85 | 42. 777 | 50. .28 |
| | 17. 54 | | 34. 5 | | |

63 Adding and Subtracting Decimals

1. 87.428	9. 1.803	17. 3.966	26. 45.02	35. 1.479	44. 16.56
2. 8.162	10. 1.11	18. 12.43	27. 4.259	36. 32.843	45. 1.058
3. 14.3	11. 86.931	19. 92.178	28. 90.9	37. 9.239	46. 5.17
4. 1.034	12. 7.663	20. .526	29. 124	38. 39.18	47. 12.52
5. 48.34	13. 87.07	21. 3.785	30. 63.2	39. 82.12	48. 3.95
6. 3.317	14. 42.68	22. 2.326	31. 17.82	40. 27.99	49. .776
7. .094	15. 63.296	23. 183.5	32. 92.91	41. 3.992	50. 53.158
8. 8.6	16. 1.785	24. 79.924	33. 17.6	42. 35.837	
		25. .46	34. .17	43. 1.48	

64 Multiplying and Dividing Decimals

1. .0295	9. 2.72	18. .088	26. 2.9	35. .568	44. .0082
2. .423	10. 1.32	19. .0098	27. 7.4	36. 5.6	45. .644
3. .006	11. 7	20. .0071	28. .9	37. .92	46. .088
4. .392	12. .0093	21. .539	29. 2.5	38. .0335	47. .79
5. .016	13. .92	22. .41	30. 9.8	39. .91	48. .53
6. .513	14. .376	23. .23	31. .38	40. .067	49. 4
7. 1.8	15. .95	24. .82	32. 9	41. .0234	
8. .34	16. 9.9	25. .13	33. .081	42. 8.3	
	17. .18		34. 2.12	43. .164	

65 Comparing Fractions

1. $\frac{2}{15}$	8. $\frac{6}{11}$	15. $\frac{1}{2}$	22. $\frac{10}{17}$	29. $\frac{4}{15}$	36. $\frac{5}{19}$
2. $\frac{1}{4}$	9. $\frac{3}{4}$	16. $\frac{2}{3}$	23. $\frac{16}{19}$	30. $\frac{16}{17}$	37. $\frac{1}{8}$
3. $\frac{1}{3}$	10. $\frac{2}{5}$	17. $\frac{2}{3}$	24. $\frac{1}{2}$	31. $\frac{4}{15}$	38. $\frac{1}{2}$
4. $\frac{6}{19}$	11. $\frac{2}{5}$	18. $\frac{1}{9}$	25. $\frac{1}{9}$	32. $\frac{8}{11}$	
5. $\frac{14}{19}$	12. $\frac{1}{2}$	19. $\frac{6}{11}$	26. $\frac{1}{9}$	33. $\frac{4}{17}$	
6. $\frac{7}{8}$	13. $\frac{11}{19}$	20. $\frac{2}{5}$	27. $\frac{1}{2}$	34. $\frac{1}{2}$	
7. $\frac{1}{7}$	14. $\frac{10}{11}$	21. $\frac{5}{6}$	28. $\frac{13}{15}$	35. $\frac{3}{7}$	

66 Adding and Subtracting Fractions with Common Denominators

- | | | | | | |
|---------------------------------|-----------------------|-------------------------------------|------------------------|---------------------|---------------------------|
| 1. $1\frac{5}{9}; \frac{14}{9}$ | 4. $\frac{3}{4}; .75$ | 7. $1\frac{2}{5}; \frac{7}{5}; 1.4$ | 10. $-\frac{1}{3}$ | 13. $\frac{6}{13}$ | 16. $\frac{5}{9}$ |
| 2. $\frac{2}{3}$ | 5. $\frac{9}{19}$ | 8. $-\frac{2}{13}$ | 11. $\frac{1}{4}; .25$ | 14. $-\frac{2}{13}$ | 17. $-\frac{1}{4}; -0.25$ |
| 3. $\frac{2}{7}$ | 6. $\frac{3}{5}; .6$ | 9. $\frac{8}{17}$ | 12. $\frac{16}{19}$ | 15. 1 | 18. $\frac{12}{19}$ |

67 Adding and Subtracting Fractions with Different Denominators

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|------------------------|-----------------------------------|------------------------------------|------------------------|------------------------------------|---------------------|
| 1. $\frac{7}{12}$ | 4. $\frac{27}{56}$ | 7. $1\frac{19}{72}; \frac{91}{72}$ | 10. $\frac{5}{22}$ | 13. $\frac{11}{20}; .55$ | 16. $\frac{7}{55}$ |
| 2. $\frac{7}{8}; .875$ | 5. $\frac{58}{77}$ | 8. $1\frac{9}{88}; \frac{97}{88}$ | 11. $\frac{1}{4}; .25$ | 14. $1\frac{7}{22}; \frac{29}{22}$ | 17. $\frac{1}{12}$ |
| 3. $\frac{7}{12}$ | 6. $1\frac{4}{33}; \frac{37}{33}$ | 9. $1\frac{1}{21}; \frac{22}{21}$ | 12. $\frac{7}{10}; .7$ | 15. $\frac{6}{35}$ | 18. $\frac{32}{33}$ |

68 Special Fraction Sum: $a/b + b/a$

- | | | | | | |
|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 1. $2\frac{1}{90}$ | 4. $2\frac{9}{40}$ | 7. $2\frac{25}{126}$ | 10. $2\frac{36}{91}$ | 13. $2\frac{1}{110}$ | 16. $2\frac{36}{55}$ |
| 2. $2\frac{9}{10}$ | 5. $2\frac{16}{45}$ | 8. $2\frac{1}{210}$ | 11. $2\frac{1}{12}$ | 14. $2\frac{1}{132}$ | 17. $2\frac{25}{66}$ |
| 3. $2\frac{36}{55}$ | 6. $2\frac{1}{182}$ | 9. $2\frac{36}{55}$ | 12. $2\frac{9}{70}$ | 15. $2\frac{4}{63}$ | 18. $2\frac{16}{45}$ |

69 Special Fraction Sum: $a/b + b/(a+b)$

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|---------------------|----------------------|----------------------|------------------------|-----------------------|-----------------------|
| 1. $1\frac{4}{143}$ | 4. $1\frac{4}{35}$ | 7. $1\frac{1}{42}$ | 10. $1\frac{9}{88}$ | 13. $1\frac{49}{228}$ | 16. $1\frac{36}{187}$ |
| 2. $1\frac{16}{77}$ | 5. $1\frac{9}{154}$ | 8. $1\frac{49}{228}$ | 11. $1\frac{121}{276}$ | 14. $1\frac{49}{198}$ | 17. $1\frac{25}{204}$ |
| 3. $1\frac{1}{72}$ | 6. $1\frac{16}{117}$ | 9. $1\frac{9}{70}$ | 12. $1\frac{25}{84}$ | 15. $1\frac{1}{132}$ | 18. $1\frac{9}{40}$ |

70 Multiplying Fractions

- | | | | | | |
|-------------------------|-----------------------|--------------------------|---------------------------|---------------------------|-------------------------|
| 1. $\frac{7}{20}; .35$ | 7. $\frac{14}{99}$ | 13. $\frac{1}{40}; .025$ | 19. $\frac{2}{5}; .4$ | 25. $\frac{25}{66}$ | 31. $\frac{2}{7}$ |
| 2. $\frac{1}{2}; .5$ | 8. $\frac{1}{42}$ | 14. $\frac{2}{9}$ | 20. $\frac{9}{56}$ | 26. $\frac{12}{35}$ | 32. $\frac{1}{18}$ |
| 3. $\frac{3}{22}$ | 9. $\frac{11}{28}$ | 15. $\frac{5}{48}$ | 21. $\frac{1}{18}$ | 27. $\frac{1}{10}; .1$ | 33. $\frac{3}{8}; .375$ |
| 4. $\frac{5}{24}$ | 10. $\frac{10}{121}$ | 16. $\frac{8}{81}$ | 22. $\frac{1}{27}$ | 28. $\frac{11}{40}; .275$ | 34. $\frac{5}{27}$ |
| 5. $\frac{1}{18}$ | 11. $\frac{1}{2}; .5$ | 17. $\frac{49}{90}$ | 23. $\frac{1}{16}; .0625$ | 29. $\frac{2}{5}; .4$ | 35. $\frac{4}{11}$ |
| 6. $\frac{3}{40}; .075$ | 12. $\frac{14}{55}$ | 18. $\frac{18}{55}$ | 24. $\frac{11}{32}$ | 30. $\frac{1}{18}$ | 36. $\frac{1}{12}$ |

71 Dividing Fractions

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|-----------------------------------|---|---------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| 1. $1\frac{2}{9}; \frac{11}{9}$ | 7. $\frac{3}{5}; .6$ | 13. $\frac{36}{55}$ | 19. $\frac{8}{15}$ | 25. $\frac{35}{36}$ | 31. $1\frac{1}{5}; \frac{6}{5}; 1.2$ |
| 2. $1\frac{8}{55}; \frac{63}{55}$ | 8. $\frac{7}{36}$ | 14. $\frac{4}{11}$ | 20. $\frac{9}{16}; .5625$ | 26. $1\frac{1}{3}; \frac{4}{3}$ | 32. $\frac{3}{5}; .6$ |
| 3. $\frac{20}{21}$ | 9. 2 | 15. $\frac{4}{9}$ | 21. $1\frac{1}{4}; \frac{5}{4}; 1.25$ | 27. $\frac{5}{27}$ | 33. $\frac{11}{36}$ |
| 4. $\frac{9}{16}; .5625$ | 10. $1\frac{1}{4}; \frac{5}{4}; 1.25$ | 16. $3\frac{1}{3}; \frac{10}{3}$ | 22. $\frac{1}{2}$ | 28. $1\frac{1}{5}; \frac{6}{5}; 1.2$ | 34. $\frac{3}{14}$ |
| 5. $3\frac{5}{24}; \frac{77}{24}$ | 11. $2\frac{1}{10}; \frac{21}{10}; 2.1$ | 17. $1\frac{3}{4}; \frac{7}{4}; 1.75$ | 23. 3 | 29. $\frac{5}{7}$ | 35. $\frac{3}{20}; .15$ |
| 6. $1\frac{2}{3}; \frac{5}{3}$ | 12. $3\frac{1}{3}; \frac{10}{3}$ | 18. $\frac{3}{4}; .75$ | 24. $2\frac{4}{5}; \frac{14}{5}; 2.8$ | 30. $\frac{2}{9}$ | 36. $\frac{7}{10}; .7$ |

72 Adding Mixed Numbers

- | | | | | | |
|--------------------|----------------------|-----------------------|-----------------------|-----------------------|----------------------|
| 1. $6\frac{5}{6}$ | 7. $17\frac{1}{4}$ | 13. $4\frac{25}{36}$ | 19. 12 | 25. $6\frac{11}{12}$ | 31. $13\frac{1}{10}$ |
| 2. $12\frac{3}{4}$ | 8. $11\frac{3}{7}$ | 14. $6\frac{29}{40}$ | 20. $11\frac{25}{56}$ | 26. $10\frac{17}{20}$ | 32. $2\frac{54}{55}$ |
| 3. $4\frac{7}{12}$ | 9. $14\frac{1}{9}$ | 15. $10\frac{11}{18}$ | 21. $8\frac{3}{20}$ | 27. $12\frac{1}{40}$ | 33. $3\frac{11}{20}$ |
| 4. $8\frac{2}{3}$ | 10. $11\frac{2}{3}$ | 16. $8\frac{17}{18}$ | 22. $15\frac{17}{40}$ | 28. $13\frac{17}{40}$ | 34. $15\frac{1}{6}$ |
| 5. $5\frac{4}{5}$ | 11. $19\frac{5}{12}$ | 17. $8\frac{3}{8}$ | 23. $12\frac{1}{30}$ | 29. $9\frac{1}{21}$ | 35. $12\frac{8}{15}$ |
| 6. $10\frac{3}{8}$ | 12. $12\frac{7}{22}$ | 18. $18\frac{8}{15}$ | 24. $15\frac{53}{88}$ | 30. $8\frac{1}{20}$ | 36. $14\frac{5}{8}$ |

73 Subtracting Mixed Numbers

- | | | | | | |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1. $2\frac{1}{2}$ | 7. $1\frac{1}{4}$ | 13. $7\frac{11}{36}$ | 19. $7\frac{3}{22}$ | 25. $3\frac{13}{36}$ | 31. $\frac{25}{28}$ |
| 2. $3\frac{3}{5}$ | 8. $\frac{3}{5}$ | 14. $4\frac{5}{24}$ | 20. $4\frac{1}{24}$ | 26. $\frac{29}{56}$ | 32. $1\frac{39}{40}$ |
| 3. $6\frac{1}{3}$ | 9. $2\frac{72}{77}$ | 15. $6\frac{13}{18}$ | 21. $\frac{45}{77}$ | 27. $6\frac{19}{72}$ | 33. $6\frac{47}{70}$ |
| 4. $2\frac{1}{4}$ | 10. $4\frac{49}{66}$ | 16. $3\frac{5}{18}$ | 22. $4\frac{31}{70}$ | 28. $1\frac{65}{77}$ | 34. $3\frac{10}{11}$ |
| 5. $1\frac{5}{8}$ | 11. $4\frac{1}{24}$ | 17. $3\frac{1}{12}$ | 23. $6\frac{5}{6}$ | 29. $3\frac{43}{72}$ | 35. $4\frac{11}{12}$ |
| 6. $6\frac{1}{12}$ | 12. $\frac{3}{4}$ | 18. $5\frac{17}{66}$ | 24. $2\frac{65}{84}$ | 30. $\frac{9}{88}$ | 36. $\frac{41}{45}$ |

74 Multiplying Mixed Numbers

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|----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $11\frac{29}{36}$ | 7. $22\frac{1}{20}$ | 13. $45\frac{9}{35}$ | 19. $2\frac{37}{48}$ | 25. $9\frac{11}{12}$ | 31. $28\frac{1}{3}$ |
| 2. $9\frac{63}{121}$ | 8. $31\frac{23}{70}$ | 14. $15\frac{10}{11}$ | 20. $60\frac{17}{30}$ | 26. $73\frac{3}{4}$ | 32. $3\frac{13}{54}$ |
| 3. $22\frac{4}{27}$ | 9. $56\frac{13}{48}$ | 15. $10\frac{9}{10}$ | 21. $14\frac{62}{63}$ | 27. $9\frac{5}{6}$ | 33. $29\frac{1}{2}$ |
| 4. $67\frac{1}{5}$ | 10. $24\frac{1}{9}$ | 16. $64\frac{19}{36}$ | 22. $21\frac{3}{5}$ | 28. $12\frac{8}{9}$ | 34. $10\frac{13}{33}$ |
| 5. $51\frac{3}{20}$ | 11. $9\frac{19}{24}$ | 17. $41\frac{29}{50}$ | 23. $27\frac{1}{8}$ | 29. $24\frac{83}{96}$ | 35. $82\frac{19}{48}$ |
| 6. $17\frac{1}{4}$ | 12. $3\frac{17}{20}$ | 18. $23\frac{29}{32}$ | 24. $48\frac{3}{50}$ | 30. $42\frac{7}{24}$ | 36. $53\frac{11}{20}$ |

75 Dividing Mixed Numbers

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|-------------------|--------------------|---------------------|-----------------------|---------------------|---------------------|
| 1. $2\frac{1}{3}$ | 7. $1\frac{3}{8}$ | 13. $2\frac{2}{3}$ | 19. $3\frac{1}{3}$ | 25. $2\frac{5}{9}$ | 31. $7\frac{1}{2}$ |
| 2. $3\frac{2}{3}$ | 8. $4\frac{1}{5}$ | 14. $2\frac{2}{5}$ | 20. $\frac{9}{11}$ | 26. $3\frac{2}{13}$ | 32. $10\frac{1}{2}$ |
| 3. $1\frac{1}{4}$ | 9. $1\frac{1}{2}$ | 15. $1\frac{1}{12}$ | 21. $\frac{4}{5}; .8$ | 27. $3\frac{5}{6}$ | 33. $1\frac{3}{4}$ |
| 4. $5\frac{1}{2}$ | 10. $5\frac{1}{3}$ | 16. $1\frac{1}{16}$ | 22. $1\frac{1}{8}$ | 28. $1\frac{1}{5}$ | 34. $4\frac{3}{4}$ |
| 5. $1\frac{4}{5}$ | 11. $3\frac{1}{2}$ | 17. $1\frac{1}{11}$ | 23. $2\frac{4}{5}$ | 29. $3\frac{2}{3}$ | 35. $1\frac{2}{9}$ |
| 6. $1\frac{5}{9}$ | 12. $6\frac{1}{3}$ | 18. $7\frac{1}{4}$ | 24. $4\frac{1}{3}$ | 30. $4\frac{4}{5}$ | 36. $1\frac{4}{9}$ |

76 Multiplying Mixed Numbers with Same Whole Number and Fractions Add to 1

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|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|
| 1. $6\frac{10}{49}$ | 7. $12\frac{12}{49}$ | 13. $56\frac{2}{9}$ | 19. $72\frac{15}{64}$ | 25. $30\frac{1}{4}$ | 31. $110\frac{10}{49}$ |
| 2. $42\frac{6}{25}$ | 8. $2\frac{20}{81}$ | 14. $20\frac{6}{25}$ | 20. $30\frac{21}{100}$ | 26. $56\frac{5}{36}$ | 32. $42\frac{8}{81}$ |
| 3. $72\frac{9}{100}$ | 9. $6\frac{15}{64}$ | 15. $56\frac{5}{36}$ | 21. $42\frac{9}{100}$ | 27. $132\frac{5}{36}$ | 33. $132\frac{35}{144}$ |
| 4. $42\frac{6}{25}$ | 10. $12\frac{3}{16}$ | 16. $72\frac{15}{64}$ | 22. $132\frac{4}{25}$ | 28. $42\frac{20}{81}$ | 34. $90\frac{3}{16}$ |
| 5. $110\frac{30}{121}$ | 11. $56\frac{11}{144}$ | 17. $12\frac{28}{121}$ | 23. $6\frac{6}{25}$ | 29. $56\frac{10}{121}$ | 35. $132\frac{3}{16}$ |
| 6. $72\frac{2}{9}$ | 12. $72\frac{14}{81}$ | 18. $30\frac{11}{144}$ | 24. $132\frac{6}{25}$ | 30. $20\frac{9}{100}$ | 36. $90\frac{3}{16}$ |

77 Multiplying Mixed Numbers with Same Fraction and Whole Numbers Whose Sum is a Multiple of the Denominator

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|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|
| 1. $21\frac{1}{4}$ | 7. $37\frac{25}{144}$ | 13. $33\frac{81}{100}$ | 19. $17\frac{49}{121}$ | 25. $18\frac{81}{100}$ | 31. $94\frac{49}{81}$ |
| 2. $70\frac{25}{64}$ | 8. $55\frac{9}{49}$ | 14. $25\frac{49}{121}$ | 20. $16\frac{36}{121}$ | 26. $60\frac{36}{49}$ | 32. $10\frac{16}{49}$ |
| 3. $47\frac{121}{144}$ | 9. $21\frac{1}{144}$ | 15. $25\frac{81}{100}$ | 21. $13\frac{4}{25}$ | 27. $10\frac{9}{64}$ | 33. $69\frac{49}{64}$ |
| 4. $36\frac{36}{121}$ | 10. $64\frac{4}{9}$ | 16. $37\frac{25}{36}$ | 22. $28\frac{9}{100}$ | 28. $36\frac{64}{121}$ | 34. $117\frac{81}{100}$ |
| 5. $20\frac{25}{64}$ | 11. $32\frac{49}{100}$ | 17. $56\frac{16}{25}$ | 23. $37\frac{4}{49}$ | 29. $56\frac{4}{25}$ | 35. $29\frac{1}{36}$ |
| 6. $36\frac{9}{16}$ | 12. $53\frac{9}{25}$ | 18. $17\frac{1}{64}$ | 24. $25\frac{25}{81}$ | 30. $34\frac{1}{36}$ | 36. $36\frac{36}{121}$ |

78 Ratios

- | | | | | | |
|--------|---------|---------|---------|---------|---------|
| 1. 384 | 9. 63 | 18. 33 | 27. 30 | 36. 65 | 45. 45 |
| 2. 42 | 10. 180 | 19. 21 | 28. 8 | 37. 65 | 46. 112 |
| 3. 14 | 11. 48 | 20. 24 | 29. 32 | 38. 48 | 47. 9 |
| 4. 72 | 12. 180 | 21. 80 | 30. 104 | 39. 160 | 48. 196 |
| 5. 60 | 13. 144 | 22. 24 | 31. 8 | 40. 28 | 49. 6 |
| 6. 91 | 14. 20 | 23. 15 | 32. 24 | 41. 45 | 50. 168 |
| 7. 20 | 15. 4 | 24. 66 | 33. 84 | 42. 40 | |
| 8. 28 | 16. 45 | 25. 189 | 34. 35 | 43. 12 | |
| | 17. 56 | 26. 224 | 35. 100 | 44. 108 | |

79 Consumer Questions

1. 131.40	7. 6.72	13. 1.26	19. 5.39	25. 4.26	31. 55.2
2. 2.25	8. 1.94	14. 49.68	20. 1.60	26. 1.44	32. 9.30
3. 27.54	9. 22.20	15. 9.20	21. 5.80	27. 6.96	
4. 7.92	10. 6.48	16. 11.52	22. 4.06	28. 6.48	
5. 30.00	11. 4.62	17. 28.86	23. 42.40	29. 6.12	
6. 17.28	12. 5.18	18. 9.00	24. 35.28	30. 2.61	

80 Square and Cubic Units

1. 60	9. 18	18. 54	27. 6400	36. 7040	45. 8
2. 12	10. 11900	19. 15000	28. 2	37. 12	
3. 3	11. 1584	20. 7	29. 9	38. 13400	46. 17280
4. 3	12. 11	21. 9	30. 5760	39. .0935	47. 10
5. 11	13. 6	22. 8	31. 75000000	40. .00829	
6. 63	14. 3	23. 17280	32. 6912	41. 2560	48. .00806
7. 5760	15. 10	24. $7.3E - 5$	33. 17280	42. 9	49. 3
8. 2	16. 135	25. 5	34. 9	43. 8	
	17. 17280	26. .0248	35. .000127	44. 7	50. 576

81 Multiplication by 101

1. 6161	10. 55550	19. 95142	28. 48581	37. 82719	46. 61610
2. 3232	11. 64842	20. 69084	29. 89688	38. 77467	
3. 8585	12. 1515	21. 60600	30. 23331	39. 39895	47. 50500
4. 4343	13. 14544	22. 53227	31. 86759	40. 45652	
5. 1515	14. 76861	23. 65953	32. 10100	41. 30805	48. 16867
6. 7979	15. 87163	24. 84537	33. 23230	42. 38279	
7. 8686	16. 90900	25. 30098	34. 24139	43. 28482	49. 83830
8. 2222	17. 89991	26. 65650	35. 16463	44. 82113	
9. 5858	18. 59893	27. 49692	36. 2020	45. 35653	50. 28785

82 Multiplication by 111

1. 7992	9. 57054	17. 109557	25. 93573	34. 49062	43. 84138
2. 3552	10. 110667	18. 90132	26. 109002	35. 44067	44. 96126
3. 5883	11. 108336	19. 101898	27. 56055	36. 58719	45. 83805
4. 3441	12. 36408	20. 89022	28. 34521	37. 18426	46. 32523
5. 3996	13. 5883	21. 38517	29. 72483	38. 103896	47. 17871
6. 4662	14. 80697	22. 86247	30. 21423	39. 63714	48. 6105
7. 8214	15. 93129	23. 90243	31. 33522	40. 87468	49. 18093
8. 1776	16. 21978	24. 87024	32. 21756	41. 45843	50. 25086
			33. 30081	42. 57831	

83 Multiplication by 125

1. 4000	9. 9500	18. 88375	27. 31375	35. 79875	44. 19875
2. 1875	10. 3000	19. 39000	28. 100500	36. 115625	45. 123125
3. 9000	11. 12000	20. 19125	29. 124750	37. 45875	46. 43125
4. 4125	12. 3125	21. 99125	30. 55750	38. 104625	47. 70250
5. 8625	13. 10250	22. 60000	31. 108875	39. 68375	48. 16250
6. 1625	14. 3500	23. 23000	32. 17375	40. 55125	49. 34750
7. 5750	15. 21500	24. 16875	33. 76125	41. 16500	
8. 10125	16. 67000	25. 51500	34. 68875	42. 118750	
	17. 75125	26. 75250		43. 114875	50. 19500

84 Square Roots

1. 12	9. 2	18. 15	27. 14	36. 2	45. 25
2. 18	10. 16	19. 41	28. 8	37. 22	
3. 29	11. 24	20. 17	29. 10	38. 9	46. 20
4. 21	12. 12	21. 12	30. 10	39. 18	47. 10
5. 13	13. 22	22. 9	31. 22	40. 8	
6. 16	14. 3	23. 24	32. 8	41. 50	48. 9
7. 21	15. 28	24. 27	33. 8	42. 30	49. 5
8. 10	16. 24	25. 18	34. 14	43. 3	
	17. 23	26. 17	35. 12	44. 17	50. 13

85 Cube Roots

1. 6	9. 10	18. 9	27. 12	36. 12	45. 2
2. 3	10. 12	19. 6	28. 5	37. 11	46. 5
3. 10	11. 8	20. 8	29. 15	38. 8	47. 1
4. 8	12. 14	21. 6	30. 9	39. 10	48. 9
5. 8	13. 8	22. 10	31. 4	40. 2	49. 15
6. 12	14. 3	23. 9	32. 3	41. 6	50. 6
7. 15	15. 12	24. 3	33. 6	42. 1	
8. 5	16. 6	25. 1	34. 4	43. 12	
	17. 14	26. 8	35. 6	44. 6	

86 Percent Problems

1. 20	9. 75	18. $12\frac{1}{2}; \frac{25}{2}; 12.5$	27. 5	35. 9	44. $88\frac{8}{9}; \frac{800}{9}$
2. $11\frac{1}{9}; \frac{100}{9}$	10. $71\frac{3}{7}; \frac{500}{7}$	19. 90	28. 10	36. $83\frac{1}{3}; \frac{250}{3}$	45. 2
3. 18	11. 10	20. 50	29. $22\frac{2}{9}; \frac{200}{9}$	37. 75	46. 30
4. $83\frac{1}{3}; \frac{250}{3}$	12. 54	21. $37\frac{1}{2}; \frac{75}{2}; 37.5$	30. $33\frac{1}{3}; \frac{100}{3}$	38. 75	47. 70
5. $88\frac{8}{9}; \frac{800}{9}$	13. $33\frac{1}{3}; \frac{100}{3}$	22. 24	31. 90	39. 21	48. 30
6. 70	14. 80	23. 35	32. 4	40. $85\frac{5}{7}; \frac{600}{7}$	49. $66\frac{2}{3}; \frac{200}{3}$
7. $44\frac{4}{9}; \frac{400}{9}$	15. 10	24. 25	33. 80	41. 20	50. $83\frac{1}{3}; \frac{250}{3}$
8. $87\frac{1}{2}; \frac{175}{2}; 87.5$	16. $57\frac{1}{7}; \frac{400}{7}$	25. $55\frac{5}{9}; \frac{500}{9}$	34. $12\frac{1}{2}; \frac{25}{2}; 12.5$	42. 50	
	17. 56	26. 60	43. $12\frac{1}{2}; \frac{25}{2}; 12.5$		

87 Interest and Taxes

1. 375.00	7. 60.00	13. 127.50	19. 5.75	25. 2.40	31. 7.50
2. 1800.00	8. 45.00	14. 360.00	20. 1.70	26. 4.60	32. 2.80
3. 240.00	9. 180.00	15. 891.00	21. .40	27. 1.90	33. .60
4. 240.00	10. 330.00	16. 100.00	22. 3.50	28. 4.75	
5. 52.50	11. 157.50	17. 320.00	23. 7.35	29. 2.85	
6. 132.00	12. 432.00	18. 5.60	24. 2.90	30. 8.00	34. 2.55

88 Distributive Property

1. 7360	9. 4140	18. 4140	27. 2070	36. 7020	45. 8730
2. 8010	10. 2700	19. 6400	28. 2350	37. 3220	46. 2250
3. 2950	11. 3900	20. 1150	29. 1540	38. 2520	47. 2580
4. 880	12. 5700	21. 4980	30. 5300	39. 2940	48. 3880
5. 6640	13. 6790	22. 1470	31. 7600	40. 1160	49. 4500
6. 4620	14. 2340	23. 5300	32. 3040	41. 2000	
7. 9400	15. 2400	24. 5280	33. 5360	42. 1320	
8. 8100	16. 2680	25. 2040	34. 3640	43. 1290	
	17. 4560	26. 2340	35. 2130	44. 4000	50. 4800

89 Polygons

1. 9	5. 4	9. 8	13. 10	17. 9
2. 4	6. 7	10. 7	14. 8	18. 4
3. 4	7. 5	11. 9	15. 4	19. 3
4. 4	8. 3	12. 7	16. 4	20. 4

90 Perimeter of Regular Polygons

1. 65	4. 128	7. 150	10. 70	13. 21	16. 9
2. 140	5. 45	8. 126	11. 63	14. 18	17. 52
3. 42	6. 20	9. 110	12. 55	15. $\frac{6}{5}; 1\frac{1}{5}; 1.2$	18. 32

91 Interior and Exterior Angles

1. 360	4. 900	7. 360	10. 360	13. 45	16. 900
2. 360	5. 360	8. 60	11. 180	14. 360	17. 360
3. 360	6. 360	9. 60	12. 120	15. 360	18. 120

92 Angles of a Triangle

1. 70	5. 108	9. 37	13. 126	17. 101
2. 10	6. 37	10. 131	14. 70	18. 15
3. 12	7. 22	11. 18	15. 11	19. 37
4. 14	8. 15	12. 15	16. 102	20. 23

93 Angles of a Right Triangle

- | | | | | | |
|-------|-------|-------|-------|--------|--------|
| 1. 54 | 3. 57 | 5. 16 | 7. 2 | 9. 0 | 11. 10 |
| 2. 89 | 4. 13 | 6. 76 | 8. 35 | 10. 43 | 12. 23 |

94 Area of a Right Triangle

- | | | | | | |
|--|--|--------|---|--------|---|
| 1. 15 | 4. $38\frac{1}{2}; \frac{77}{2}; 38.5$ | 7. 78 | 11. 20 | 14. 12 | 18. 72 |
| 2. 56 | 5. 6 | 8. 77 | 12. 30 | 15. 63 | 19. 28 |
| 3. $24\frac{1}{2}; \frac{49}{2}; 24.5$ | 6. 30 | 9. 30 | 13. $16\frac{1}{2}; \frac{33}{2}; 16.5$ | 16. 54 | 20. $17\frac{1}{2}; \frac{35}{2}; 17.5$ |
| | | 10. 42 | | 17. 9 | |

95 Pythagorean Theorem

- | | | | | | |
|--------|---------|---------|---------|--------|---------|
| 1. 36 | 6. 360 | 11. 84 | 16. 30 | 21. 30 | 26. 120 |
| 2. 50 | 7. 41 | 12. 30 | 17. 12 | 22. 40 | 27. 17 |
| 3. 360 | 8. 18 | 13. 24 | 18. 360 | 23. 24 | 28. 120 |
| 4. 90 | 9. 12 | 14. 12 | 19. 40 | 24. 60 | 29. 12 |
| 5. 40 | 10. 180 | 15. 180 | 20. 13 | 25. 4 | 30. 24 |

96 Squares (polygon)

- | | | | | | |
|-------|-------|-------|--------|---------|---------|
| 1. 28 | 4. 76 | 7. 14 | 10. 52 | 13. 225 | 16. 144 |
| 2. 32 | 5. 20 | 8. 6 | 11. 22 | 14. 10 | |
| 3. 44 | 6. 4 | 9. 7 | 12. 16 | 15. 60 | |

97 Rectangles

- | | | | | | |
|-------|--------|-------|--------|--------|--------|
| 1. 3 | 4. 52 | 7. 54 | 10. 13 | 13. 2 | 16. 18 |
| 2. 24 | 5. 200 | 8. 28 | 11. 5 | 14. 19 | |
| 3. 42 | 6. 9 | 9. 33 | 12. 15 | 15. 1 | |

98 Trapezoids

- | | | | | | |
|---|-------|---|--------|--|--|
| 1. 8 | 4. 12 | 7. $93\frac{1}{2}; \frac{187}{2}; 93.5$ | 10. 9 | 13. $94\frac{1}{2}; \frac{189}{2}; 94.5$ | 16. $121\frac{1}{2}; \frac{243}{2}; 121.5$ |
| 2. 18 | 5. 36 | 8. 95 | 11. 15 | 14. 12 | |
| 3. $126\frac{1}{2}; \frac{253}{2}; 126.5$ | 6. 55 | 9. 70 | 12. 2 | 15. 32 | |

99 Rhombuses

- | | | | | | |
|--------|-------|-------|--------|--------|---|
| 1. 10 | 4. 56 | 7. 8 | 10. 16 | 13. 18 | 16. $42\frac{1}{2}; \frac{85}{2}; 42.5$ |
| 2. 144 | 5. 17 | 8. 10 | 11. 30 | 14. 15 | |
| 3. 36 | 6. 60 | 9. 18 | 12. 45 | 15. 15 | |

100 Parallelograms

- | | | | | | |
|--------|-------|--------|---------|---------|---------|
| 1. 20 | 4. 4 | 7. 216 | 10. 108 | 13. 10 | 16. 300 |
| 2. 110 | 5. 16 | 8. 70 | 11. 18 | 14. 135 | |
| 3. 5 | 6. 48 | 9. 19 | 12. 80 | 15. 12 | |

101 Circles

- | | | | | | |
|-------|-------|--------|---------|---------|---------|
| 1. 24 | 4. 28 | 7. 121 | 10. 196 | 13. 25 | 16. 169 |
| 2. 4 | 5. 4 | 8. 14 | 11. 14 | 14. 12 | |
| 3. 24 | 6. 20 | 9. 4 | 12. 24 | 15. 196 | |

102 Cubes

- | | | | | | |
|-------|--------|--------|---------|---------|-------|
| 1. 8 | 4. 726 | 7. 726 | 10. 384 | 13. 12 | 16. 6 |
| 2. 3 | 5. 7 | 8. 384 | 11. 7 | 14. 10 | |
| 3. 12 | 6. 1 | 9. 10 | 12. 6 | 15. 216 | |

103 Rectangular Prisms

- | | | | | | |
|-------|-------|-------|---------|---------|---------|
| 1. 64 | 4. 10 | 7. 5 | 10. 45 | 13. 344 | 16. 208 |
| 2. 8 | 5. 5 | 8. 45 | 11. 178 | 14. 7 | |
| 3. 4 | 6. 10 | 9. 78 | 12. 240 | 15. 12 | |

104 Cylinders

- | | | | | | |
|-------|--------|--------|-------|---------|--------|
| 1. 60 | 4. 648 | 7. 324 | 10. 7 | 13. 6 | 16. 64 |
| 2. 9 | 5. 10 | 8. 5 | 11. 4 | 14. 100 | |
| 3. 3 | 6. 4 | 9. 256 | 12. 7 | 15. 10 | |

105 Cones

- | | | | | | |
|-------|----------------------------------|------|--------|-------|-------|
| 1. 9 | 4. $10\frac{2}{3}; \frac{32}{3}$ | 6. 8 | 9. 6 | 12. 3 | 15. 6 |
| 2. 5 | | 7. 9 | 10. 10 | 13. 1 | |
| 3. 30 | 5. 27 | 8. 5 | 11. 4 | 14. 4 | |

106 Spheres

- | | | | | | |
|--------|----------------------------------|--------|---------------------------------|------------------------------------|--------|
| 1. 144 | 4. 36 | 7. 10 | 10. $1\frac{1}{3}; \frac{4}{3}$ | 12. 64 | 14. 7 |
| 2. 36 | 5. 144 | 8. 256 | | | 15. 4 |
| 3. 36 | 6. $10\frac{2}{3}; \frac{32}{3}$ | 9. 324 | 11. 144 | 13. $85\frac{1}{3}; \frac{256}{3}$ | 16. 36 |

107 Multiplication Redistribution

- | | | | | | |
|--------|---------|---------|----------|----------|----------|
| 1. 759 | 4. 840 | 7. 4224 | 10. 1410 | 13. 270 | 16. 2112 |
| 2. 420 | 5. 1200 | 8. 4081 | 11. 1440 | 14. 990 | |
| 3. 450 | 6. 1410 | 9. 5005 | 12. 7392 | 15. 1166 | |

108 Factorials

- | | | | | | |
|----------|-------|--------|--------|----------|-----------|
| 1. 24 | 4. 6 | 7. 20 | 10. 96 | 13. .2 | 16. 40320 |
| 2. 6 | 5. 8 | 8. 2 | 11. 72 | 14. 6 | |
| 3. 40320 | 6. 12 | 9. 120 | 12. 2 | 15. 3024 | |

109 Higher Powers

- | | | | | | |
|---------|--------|--------|---------|--------|--------|
| 1. 1024 | 4. 256 | 7. 27 | 10. 128 | 13. 16 | 16. 64 |
| 2. 256 | 5. 512 | 8. 625 | 11. 256 | 14. 32 | |
| 3. 625 | 6. 32 | 9. 64 | 12. 27 | 15. 64 | |

110 Exponents and Operations

- | | | | | | |
|------------------|--------|---------------------------|----------------------|-----------|--------|
| 1. 6561 | 4. 625 | 7. $\frac{1}{5}; \cdot 2$ | 9. 625 | 12. 3 | 15. 64 |
| 2. $\frac{1}{9}$ | 5. 2 | 8. $\frac{1}{64}$ | 10. 9 | 13. 78125 | |
| 3. 3 | 6. 36 | | 11. $\frac{1}{6561}$ | 14. 225 | 16. 1 |

111 Order of Operations with Negatives

- | | | | | | |
|-------|--------|--------|---------|---------|--------|
| 1. 7 | 4. 0 | 7. 33 | 10. -25 | 13. -14 | 16. 22 |
| 2. 32 | 5. -10 | 8. -65 | 11. 2 | 14. -31 | |
| 3. 13 | 6. 8 | 9. 19 | 12. 72 | 15. -8 | |

112 $a^2 + (3a)^2$

- | | | | | | |
|---------|----------|----------|-----------|-----------|-----------|
| 1. 810 | 4. 1690 | 7. 2560 | 10. 1440 | 13. 16810 | 16. 24010 |
| 2. 1210 | 5. 3240 | 8. 11560 | 11. 23040 | 14. 12960 | |
| 3. 640 | 6. 21160 | 9. 16000 | 12. 12960 | 15. 5290 | |

113 $a^2 + (2a)^2$

- | | | | | | |
|--------|---------|----------|----------|-----------|----------|
| 1. 320 | 4. 4500 | 7. 1805 | 10. 5780 | 13. 2420 | 16. 6845 |
| 2. 720 | 5. 405 | 8. 14045 | 11. 1280 | 14. 11520 | |
| 3. 980 | 6. 5780 | 9. 2880 | 12. 3645 | 15. 6125 | |

114 Special Subtraction Problem

- | | | | | | |
|---------|--------|---------|----------|----------|--------|
| 1. 396 | 4. 198 | 7. -396 | 10. 297 | 13. 396 | 16. 99 |
| 2. -594 | 5. 297 | 8. -297 | 11. -198 | 14. -99 | |
| 3. -198 | 6. 297 | 9. 297 | 12. 198 | 15. -297 | |

115 Probability with sets

- | | | | | | |
|----------------------------|-------------------|----------------------------|----------------------------|-----------------------------|------------------------------|
| 1. $\frac{4}{39}$ | 4. $\frac{2}{11}$ | 7. $\frac{4}{15}$ | 10. $\frac{1}{2}; \cdot 5$ | 13. $\frac{4}{33}$ | 16. $\frac{3}{25}; \cdot 12$ |
| 2. $\frac{1}{3}$ | 5. $\frac{2}{17}$ | 8. $\frac{3}{10}; \cdot 3$ | 11. $\frac{3}{22}$ | 14. $\frac{1}{4}; \cdot 25$ | |
| 3. $\frac{3}{10}; \cdot 3$ | 6. $\frac{4}{27}$ | 9. $\frac{2}{31}$ | 12. $\frac{4}{39}$ | 15. $\frac{2}{7}$ | |

116 Probability with dice

- | | | | | | |
|-------------------|-------------------|-------------------|---------------------|---------------------|---------------------|
| 1. $\frac{1}{12}$ | 4. $\frac{5}{36}$ | 7. $\frac{1}{18}$ | 10. $\frac{1}{12}$ | 13. $\frac{35}{36}$ | 16. $\frac{35}{36}$ |
| 2. $\frac{1}{36}$ | 5. $\frac{1}{9}$ | 8. $\frac{1}{9}$ | 11. $\frac{1}{36}$ | 14. $\frac{8}{9}$ | |
| 3. $\frac{1}{36}$ | 6. $\frac{1}{18}$ | 9. $\frac{1}{9}$ | 12. $\frac{11}{36}$ | 15. $\frac{5}{6}$ | |

117 Probability with coins

- | | | | | | |
|----------------------|-------------------------|----------------------|-----------------------|--------------------------|----------------------|
| 1. $\frac{1}{256}$ | 4. $\frac{1}{4};.25$ | 7. $\frac{1}{32}$ | 10. $\frac{1}{1024}$ | 13. $\frac{1}{128}$ | 16. $\frac{1}{1024}$ |
| 2. $\frac{1}{128}$ | 5. $\frac{1}{64}$ | 8. $\frac{1}{128}$ | 11. $\frac{1}{64}$ | 14. $\frac{1}{32}$ | |
| 3. $\frac{1}{4};.25$ | 6. $\frac{1}{16};.0625$ | 9. $\frac{1}{4};.25$ | 12. $\frac{1}{4};.25$ | 15. $\frac{1}{16};.0625$ | |

118 Probability with cards

- | | | | | | |
|---------------------|-------------------|----------------------|-------------------|--------------------|-----------------------|
| 1. $\frac{1}{2};.5$ | 3. $\frac{1}{13}$ | 5. $\frac{1}{26}$ | 7. $\frac{1}{26}$ | 9. $\frac{1}{26}$ | 11. $\frac{1}{13}$ |
| 2. $\frac{1}{26}$ | 4. $\frac{1}{52}$ | 6. $\frac{1}{4};.25$ | 8. $\frac{1}{13}$ | 10. $\frac{1}{13}$ | 12. $\frac{1}{4};.25$ |

119 Odds

- | | | | | |
|-------------------------------|-----------------------------------|------------------------------------|---------------------------------------|-----------------------|
| 1. $\frac{3}{7}$ | 4. $1\frac{2}{5};\frac{7}{5};1.4$ | 7. $\frac{4}{5};.8$ | 10. $1\frac{3}{8};\frac{11}{8};1.375$ | 13. $\frac{1}{17}$ |
| 2. $\frac{5}{13}$ | 5. $\frac{13}{17}$ | 8. $\frac{3}{4};.75$ | 11. $\frac{6}{13}$ | |
| 3. $1\frac{2}{7};\frac{9}{7}$ | 6. $\frac{7}{12}$ | 9. $2\frac{3}{5};\frac{13}{5};2.6$ | 12. $\frac{2}{9}$ | 14. $\frac{3}{4};.75$ |

120 Remainders with Operations

- | | | | | | |
|------|-------|-------|-------|-------|-------|
| 1. 1 | 9. 5 | 18. 0 | 27. 4 | 36. 6 | 45. 0 |
| 2. 0 | 10. 1 | 19. 2 | 28. 1 | 37. 6 | 46. 3 |
| 3. 0 | 11. 8 | 20. 2 | 29. 7 | 38. 3 | |
| 4. 1 | 12. 0 | 21. 2 | 30. 2 | 39. 3 | 47. 2 |
| 5. 3 | 13. 1 | 22. 1 | 31. 5 | 40. 2 | |
| 6. 4 | 14. 1 | 23. 0 | 32. 1 | 41. 5 | 48. 2 |
| 7. 4 | 15. 2 | 24. 5 | 33. 3 | 42. 2 | 49. 1 |
| 8. 4 | 16. 2 | 25. 1 | 34. 2 | 43. 0 | |
| | 17. 2 | 26. 2 | 35. 6 | 44. 7 | 50. 2 |

121 Base Conversions

1. 103	9. 33	18. 13	27. 120	36. 34	45. 23
2. 23	10. 142	19. 30	28. 10101	37. 70	46. 202
3. 31	11. 301	20. 31	29. 1110	38. 17	
4. 122	12. 13	21. 41	30. 212	39. 32	47. 115
5. 10101	13. 23	22. 220	31. 30	40. 106	
6. 12	14. 15	23. 33	32. 311	41. 105	48. 16
7. 20	15. 32	24. 3	33. 221	42. 23	49. 25
8. 10111	16. 10	25. 110	34. 115	43. 21	
	17. 34	26. 100	35. 38	44. 6	50. 41

122 Base 2

1. 100101	6. 111111	11. 10100	16. 101011	21. 230	26. 110100
2. 11100	7. 11111	12. 110011	17. 100000	22. 111001	27. 25
3. 10100	8. 113	13. 100101	18. 101110	23. 65	28. 70
4. 101100	9. 221	14. 101100	19. 10001	24. 101101	29. 34
5. 64	10. 111100	15. 76	20. 63	25. 56	30. 312

123 Base 3

1. 1110	4. 120	7. 1221	10. 2000	13. 70	16. 65
2. 33	5. 71	8. 1111	11. 1201	14. 2122	
3. 120	6. 27	9. 31	12. 1222	15. 53	

124 Adding and Subtracting Bases

1. 13	5. 45	9. 13	13. 1	17. 46
2. 21	6. 36	10. 3	14. 0	18. 112
3. 110	7. 0	11. 104	15. 4	19. 42
4. 135	8. 3	12. 33	16. 121	20. 112

125 Multiplying Bases

1. 52	5. 343	9. 545	13. 215	17. 142
2. 431	6. 260	10. 207	14. 312	18. 102
3. 123	7. 223	11. 483	15. 83	19. 120
4. 160	8. 185	12. 314	16. 246	20. 132

126 Additive Inverses

- | | | | | | |
|--------------------|---------------------------------------|---------------------------------|---------------------|---------------------------|----------|
| 1. $-\frac{38}{7}$ | 4. $-\frac{1}{2}; -0.5$ | 7. -1.6 | 11. 41 | 15. $-\frac{19}{2}; -9.5$ | 19. 16 |
| 2. 49 | 5. 33.8 | 8. $3\frac{1}{6}; \frac{19}{6}$ | 12. 51 | 16. 24 | 20. 31.9 |
| 3. -87.6 | 6. $6\frac{1}{4}; \frac{25}{4}; 6.25$ | 9. -50.3 | 13. $-\frac{20}{7}$ | 17. -54.6 | |
| | | 10. -36 | 14. -1 | 18. -11 | |

127 Multiplicative Inverses

- | | | | | | |
|---------------------------------|----------------------|----------------------|---------------------------------------|---------------------------------------|--------------------|
| 1. $\frac{3}{4}; .75$ | 4. $\frac{2}{3}$ | 8. $\frac{1}{5}; .2$ | 11. $3\frac{1}{3}$ | 15. $2\frac{1}{4}; \frac{9}{4}; 2.25$ | 18. $\frac{1}{3}$ |
| 2. $\frac{1}{8}; .125$ | 5. | 9. $\frac{5}{9}$ | 12. 9 | 16. $1\frac{3}{5}; \frac{8}{5}; 1.6$ | 19. $1\frac{1}{3}$ |
| 3. $1\frac{3}{7}; \frac{10}{7}$ | 6. $\frac{1}{5}; .2$ | 10. $3\frac{1}{3}$ | 13. $1\frac{3}{4}; \frac{7}{4}; 1.75$ | 17. | 20. |
| | 7. .25 | | 14. $1\frac{3}{5}; \frac{8}{5}; 1.6$ | | |

128 Sets

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

129 Average

- | | | | | | |
|-------|-------|-------|--------|--------|--------|
| 1. 92 | 4. 42 | 7. 31 | 10. 35 | 13. 45 | 16. 12 |
| 2. 44 | 5. 68 | 8. 41 | 11. 38 | 14. 59 | |
| 3. 69 | 6. 14 | 9. 18 | 12. 64 | 15. 13 | |

130 Median

- | | | | | | |
|---------|-------|---------|--------|--------|--------|
| 1. 37 | 4. 87 | 7. 71 | 10. 9 | 13. 61 | 16. 66 |
| 2. 37.5 | 5. 35 | 8. 56.5 | 11. 31 | 14. 19 | |
| 3. 75 | 6. 51 | 9. 16 | 12. 77 | 15. 42 | |

131 Mode

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

132 Range

1. 28	4. 21	7. 18	10. 23	13. 23	16. 17
2. 6	5. 24	8. 21	11. 21	14. 10	
3. 23	6. 6	9. 29	12. 21	15. 28	

133 Relatively Prime

1. 6	4. 36	7. 24	10. 28	13. 20	16. 24
2. 30	5. 16	8. 48	11. 12	14. 16	
3. 24	6. 44	9. 24	12. 6	15. 16	

134 Triangular Numbers

1. 28	4. 66	7. 78	10. 21	13. 45	16. 15
2. 45	5. 15	8. 6	11. 15	14. 6	
3. 6	6. 10	9. 78	12. 55	15. 10	

135 Other Figurate Numbers

1. 65	4. 6	7. 70	10. 55	13. 7	16. 133
2. 189	5. 96	8. 51	11. 190	14. 176	
3. 28	6. 12	9. 34	12. 145	15. 153	

136 Greatest Integer / Least Integer

1. 24	4. 37	7. 11	10. 27	13. 6	16. 6
2. 7	5. 14	8. 40	11. 16	14. 27	
3. 32	6. 8	9. 24	12. 32	15. 31	

137 Repeating Decimals

- | | | | | | |
|----------------------|-----------------------|---------------------|---------------------|---------------------|-----------------------|
| 1. $\frac{4}{9}$ | 10. $\frac{2}{3}$ | 19. $\frac{41}{45}$ | 28. $\frac{67}{90}$ | 37. $\frac{1}{9}$ | 46. $\frac{4}{9}$ |
| 2. $\frac{2}{9}$ | 11. $\frac{13}{45}$ | 20. $\frac{2}{3}$ | 29. $\frac{6}{11}$ | 38. $\frac{8}{9}$ | 47. $\frac{940}{999}$ |
| 3. $\frac{47}{99}$ | 12. $\frac{11}{30}$ | 21. $\frac{1}{3}$ | 30. $\frac{2}{9}$ | 39. $\frac{4}{9}$ | 48. $\frac{7}{9}$ |
| 4. $\frac{4}{45}$ | 13. $\frac{632}{999}$ | 22. $\frac{5}{9}$ | 31. $\frac{25}{33}$ | 40. $\frac{2}{15}$ | 49. $\frac{7}{90}$ |
| 5. $\frac{1}{3}$ | 14. $\frac{1}{6}$ | 23. $\frac{91}{99}$ | 32. $\frac{29}{30}$ | 41. $\frac{1}{3}$ | 50. $\frac{379}{999}$ |
| 6. $\frac{8}{33}$ | 15. $\frac{1}{45}$ | 24. $\frac{10}{33}$ | 33. $\frac{1}{9}$ | 42. $\frac{73}{99}$ | |
| 7. $\frac{1}{9}$ | 16. $\frac{27}{37}$ | 25. $\frac{1}{3}$ | 34. $\frac{7}{11}$ | 43. $\frac{67}{90}$ | |
| 8. $\frac{188}{999}$ | 17. $\frac{4}{9}$ | 26. $\frac{59}{99}$ | 35. $\frac{10}{11}$ | 44. $\frac{2}{3}$ | |
| 9. $\frac{31}{45}$ | 18. $\frac{1}{33}$ | 27. $\frac{22}{45}$ | 36. $\frac{7}{9}$ | 45. $\frac{17}{90}$ | |

138 Solving for x

- | | | | | | |
|-------|--------|---------|---------|---------|---------|
| 1. 1 | 9. 12 | 18. 1 | 27. 0 | 36. -5 | 45. 7 |
| 2. -5 | 10. -6 | 19. 1 | 28. -6 | 37. -2 | 46. -8 |
| 3. 7 | 11. 10 | 20. 4 | 29. 6 | 38. -6 | 47. -11 |
| 4. 11 | 12. -1 | 21. -8 | 30. 0 | 39. -7 | 48. -3 |
| 5. 6 | 13. -2 | 22. 10 | 31. -8 | 40. 0 | 49. -1 |
| 6. -6 | 14. 6 | 23. -11 | 32. 11 | 41. -10 | 50. -8 |
| 7. -6 | 15. 11 | 24. 2 | 33. -10 | 42. -4 | |
| 8. 1 | 16. 12 | 25. -11 | 34. -12 | 43. -5 | |
| | 17. 8 | 26. 10 | 35. -12 | 44. -5 | |

139 Solving Inequalities

- | | | | | | |
|-------|---------|--------|--------|--------|--------|
| 1. 11 | 9. 11 | 18. -1 | 27. 12 | 36. 11 | 45. 5 |
| 2. -3 | 10. 10 | 19. -6 | 28. 1 | 37. -8 | 46. 0 |
| 3. -5 | 11. 10 | 20. -4 | 29. 11 | 38. 11 | 47. -5 |
| 4. -6 | 12. -5 | 21. 3 | 30. 6 | 39. 3 | 48. -9 |
| 5. 12 | 13. 2 | 22. -3 | 31. -1 | 40. -1 | 49. 2 |
| 6. -8 | 14. -7 | 23. 4 | 32. -3 | 41. 1 | 50. -1 |
| 7. 8 | 15. 4 | 24. 0 | 33. 2 | 42. 5 | |
| 8. 3 | 16. -6 | 25. 8 | 34. -6 | 43. 6 | |
| | 17. -11 | 26. 12 | 35. 3 | 44. 1 | |

140 Slope and Intercepts

- | | | | | | |
|--------------------------------------|-------------------------------------|----------------------------------|---------------------------------------|--------------------------|---|
| 1. $-\frac{7}{11}$ | 6. $\frac{2}{5}; 4$ | 12. $-\frac{4}{5}; -0.8$ | 17. 3 | 22. $-\frac{3}{2}; -1.5$ | 27. $1\frac{3}{8}; \frac{11}{8}; 1.375$ |
| 2. -4 | 7. -18 | 13. -12 | 18. -3 | 23. $-\frac{4}{11}$ | 28. $-\frac{10}{9}$ |
| 3. $2\frac{1}{4}; \frac{9}{4}; 2.25$ | 8. -7 | 14. $-\frac{12}{11}$ | 19. 3 | 24. $-\frac{32}{9}$ | 29. 2 |
| 4. $-\frac{9}{5}; -1.8$ | 9. $3\frac{1}{2}; \frac{7}{2}; 3.5$ | 15. -9 | 20. $2\frac{4}{5}; \frac{14}{5}; 2.8$ | 25. $-\frac{8}{5}; -1.6$ | 30. $-\frac{6}{5}; -1.2$ |
| 5. $-\frac{5}{12}$ | 10. -6 | 16. $3\frac{1}{3}; \frac{10}{3}$ | 21. $-\frac{3}{2}; -1.5$ | 26. -10 | |
| | 11. $1\frac{1}{12}; \frac{13}{12}$ | | | | |

141 Working with f(x)

- | | | | | | |
|--------|--------|---------|---------|---------|---------|
| 1. 256 | 6. 12 | 11. 225 | 16. 64 | 21. 100 | 26. 256 |
| 2. 121 | 7. 8 | 12. 400 | 17. 25 | 22. 196 | 27. -13 |
| 3. -54 | 8. 53 | 13. 39 | 18. 155 | 23. 1 | 28. 121 |
| 4. 0 | 9. 169 | 14. 80 | 19. 9 | 24. 30 | 29. 0 |
| 5. 9 | 10. 2 | 15. 6 | 20. -9 | 25. 122 | 30. 289 |

For estimation problems, the exact answer is given in square brackets.

142 Estimations: Addition and Subtraction

- | | | | |
|-----------------------|-----------------------|------------------------|------------------------|
| 1. 1520 - 1678 [1599] | 6. 922 - 1018 [970] | 11. 3705 - 4095 [3900] | 16. 2079 - 2297 [2188] |
| 2. 946 - 1044 [995] | 7. 3100 - 3426 [3263] | 12. 1399 - 1545 [1472] | 17. 1833 - 2025 [1929] |
| 3. 2045 - 2259 [2152] | 8. 3334 - 3684 [3509] | 13. 2366 - 2614 [2490] | 18. 1900 - 2100 [2000] |
| 4. 1823 - 2013 [1918] | 9. 2991 - 3305 [3148] | 14. 60 - 66 [63] | 19. 2729 - 3015 [2872] |
| 5. 3519 - 3889 [3704] | 10. -24 - -20 [-22] | 15. 1233 - 1361 [1297] | 20. 3700 - 4088 [3894] |

143 Estimations: Multiplication

- | | | |
|-----------------------------|------------------------------|------------------------------|
| 1. 285888 - 315980 [300934] | 8. 34109 - 37699 [35904] | 15. 60423 - 66783 [63603] |
| 2. 49684 - 54912 [52298] | 9. 82413 - 91087 [86750] | 16. 260209 - 287599 [273904] |
| 3. 59296 - 65536 [62416] | 10. 40214 - 44446 [42330] | 17. 450751 - 498197 [474474] |
| 4. 285000 - 315000 [300000] | 11. 287793 - 318087 [302940] | 18. 147274 - 162776 [155025] |
| 5. 492932 - 544818 [518875] | 12. 61632 - 68118 [64875] | 19. 65436 - 72324 [68880] |
| 6. 244416 - 270144 [257280] | 13. 715806 - 791154 [753480] | 20. 56316 - 62244 [59280] |
| 7. 3876 - 4284 [4080] | 14. 293573 - 324475 [309024] | |

144 Estimations: 142857-type Problems

- | | |
|-----------------------------------|------------------------------------|
| 1. 100955 - 111581 [106268] | 11. 446979 - 494029 [470504] |
| 2. 16828437 - 18599851 [17714144] | 12. 109224 - 120720 [114972] |
| 3. 3080776 - 3405068 [3242922] | 13. 120738 - 133446 [127092] |
| 4. 860085 - 950619 [905352] | 14. 23736350 - 26234912 [24985631] |
| 5. 472318 - 522034 [497176] | 15. 34851516 - 38520096 [36685806] |
| 6. 39940 - 44144 [42042] | 16. 24062063 - 26594911 [25328487] |
| 7. 12499 - 13813 [13156] | 17. 7396370 - 8174934 [7785652] |
| 8. 320836 - 354608 [337722] | 18. 854958 - 944952 [899955] |
| 9. 14372095 - 15884947 [15128521] | 19. 47717263 - 52740131 [50228697] |
| 10. 415120 - 458816 [436968] | 20. 317519 - 350941 [334230] |

145 Estimations: Division

- | | | | |
|--------------------|---------------------|---------------------|----------------------|
| 1. 350 - 386 [368] | 6. 449 - 495 [472] | 11. 856 - 946 [901] | 16. 620 - 684 [652] |
| 2. 789 - 871 [830] | 7. 885 - 977 [931] | 12. 221 - 243 [232] | 17. 817 - 901 [859] |
| 3. 841 - 929 [885] | 8. 228 - 250 [239] | 13. 269 - 297 [283] | 18. 913 - 1009 [961] |
| 4. 375 - 413 [394] | 9. 524 - 578 [551] | 14. 778 - 858 [818] | 19. 810 - 894 [852] |
| 5. 720 - 794 [757] | 10. 590 - 652 [621] | 15. 386 - 426 [406] | 20. 508 - 560 [534] |

146 Estimations: Exponents

- | | |
|-----------------------------------|---------------------------------|
| 1. 40732 - 45018 [42875] | 11. 37339 - 41269 [39304] |
| 2. 2088 - 2306 [2197] | 12. 5476561 - 6053041 [5764801] |
| 3. 6114526 - 6758160 [6436343] | 13. 5541 - 6123 [5832] |
| 4. 2088 - 2306 [2197] | 14. 2607 - 2881 [2744] |
| 5. 510933 - 564715 [537824] | 15. 56097 - 62001 [59049] |
| 6. 265849 - 293833 [279841] | 16. 8798 - 9724 [9261] |
| 7. 49895782 - 55147968 [52521875] | 17. 1425594 - 1575656 [1500625] |
| 8. 19485592 - 21536706 [20511149] | 18. 132970 - 146966 [139968] |
| 9. 1269520 - 1403152 [1336336] | 19. 2669364 - 2950348 [2809856] |
| 10. 236391 - 261273 [248832] | 20. 118196 - 130636 [124416] |

147 Estimations: Square Roots

- | | | | |
|------------------------|--------------------------|--------------------------|---------------------------|
| 1. 361 - 398 [379.89] | 6. 477 - 526 [501.79] | 11. 935 - 1032 [983.65] | 16. 1005 - 1110 [1057.61] |
| 2. 907 - 1001 [954.07] | 7. 1010 - 1115 [1062.45] | 12. 958 - 1058 [1007.83] | 17. 840 - 927 [883.36] |
| 3. 898 - 991 [944.39] | 8. 609 - 672 [640.38] | 13. 728 - 803 [765.35] | 18. 973 - 1074 [1023.36] |
| 4. 886 - 978 [932.28] | 9. 447 - 492 [469.48] | 14. 965 - 1065 [1014.85] | 19. 836 - 923 [879.82] |
| 5. 403 - 444 [423.32] | 10. 638 - 704 [670.78] | 15. 640 - 706 [673.15] | 20. 709 - 782 [745.66] |

148 Estimations: Working with pi

- | | | | |
|--------------------------|-----------------------------|---------------------------------|---------------------------------|
| 1. 2617 - 2891 [2754.18] | 5. 2326 - 2570 [2448.16] | 10. 104 - 113 [108.57] | 16. 108170 - 119555 [113862.37] |
| 2. 4071 - 4498 [4284.28] | 6. 1454 - 1606 [1530.10] | 11. 66 - 72 [69.09] | 17. 371 - 409 [389.64] |
| 3. 2129 - 2352 [2240.41] | 7. 20085 - 22199 [21142.05] | 12. 126198 - 139481 [132839.43] | 18. 45071 - 49814 [47442.66] |
| 4. 1827 - 2018 [1922.78] | 8. 177 - 195 [186.04] | 13. 89 - 97 [93.02] | 19. 556 - 613 [584.45] |
| | 9. 926 - 1022 [974.09] | 14. 2908 - 3213 [3060.20] | 20. 8220 - 9085 [8652.50] |
| | | 15. 383 - 423 [403.08] | |