Mental Math · Friendly Numbers — Practice

CKSTEM Math Problem Solving · Grades 2–4

1 BEND AND REPAY

What is 9 + 4?

WORK IT OUT HERE

2 BEND AND REPAY

9 + 7 = ?

WORK IT OUT HERE

3 BEND AND REPAY

8 + 6 = ?

WORK IT OUT HERE

4 BEND AND REPAY

9 + 8 = ?

WORK IT OUT HERE

5 BEND AND REPAY

Pip the puppy chases 19 leaves, then 7 more. How many leaves did Pip chase in all?

WORK IT OUT HERE

6 BEND AND REPAY

A jar holds 29 marbles. You drop in 5 more. How many marbles now?

WORK IT OUT HERE

7 BEND AND REPAY

There are 49 stickers in a book and you add a sheet of 8. How many stickers altogether?

WORK IT OUT HERE

8 BEND AND REPAY

A train car has 18 seats and the next car has 6 seats. How many seats in the two cars?

WORK IT OUT HERE

9 BEND AND REPAY

98 + 5 = ?

WORK IT OUT HERE

10 BEND AND REPAY

A library shelf has 199 books. A box of 6 more arrives. How many books does the shelf hold now?

WORK IT OUT HERE

11 MAKE TEN

What is 8 + 5?

WORK IT OUT HERE

12 MAKE TEN

7 + 6 = ?

WORK IT OUT HERE

13 MAKE TEN

9 + 4 = ?

WORK IT OUT HERE

14 MAKE TEN

6 + 8 = ?

WORK IT OUT HERE

15 MAKE TEN

A ladybug has 8 spots on one wing and 7 on the other. How many spots in all?

WORK IT OUT HERE

16 MAKE TEN

A bookshelf holds 8 storybooks and 9 picture books. How many books are on the shelf in all?

WORK IT OUT HERE

17 MAKE TEN

A plate has 6 crackers and you add 9 more. How many crackers now?

WORK IT OUT HERE

18 MAKE TEN

A flower bed has 7 bees on it and 9 more land. How many bees are on the flower bed in all?

WORK IT OUT HERE

19 MAKE TEN

8 + 5 + 7 = ?

WORK IT OUT HERE

20 MAKE TEN

At a party there are 9 red balloons, 8 blue balloons, and 6 green balloons. How many balloons in all?

WORK IT OUT HERE

21 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 2, 4, 6, 7. Build two 2-digit numbers using each card once. What is the closest sum to 100 you can make?

WORK IT OUT HERE

22 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 4, 4, 5, 6. Use each card once to make two 2-digit numbers. What is the closest sum to 100?

WORK IT OUT HERE

23 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 1, 4, 6, 8. Use each card once to build two 2-digit numbers. What sum closest to 100 can you reach?

WORK IT OUT HERE

24 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 2, 3, 6, 8. Use each card once to build two 2-digit numbers. What sum closest to 100 can you reach?

WORK IT OUT HERE

25 MAKE HUNDRED (CLOSEST-SUM CARDS)

Maya draws snack-label cards 1, 2, 8, 9. Using each digit once, she builds two 2-digit prices and adds them. What sum closest to 100 can she make?

WORK IT OUT HERE

26 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 3, 4, 5, 8. Use each once to form two 2-digit numbers. What is the closest sum you can reach to 100?

WORK IT OUT HERE

27 MAKE HUNDRED (CLOSEST-SUM CARDS)

A game deals you cards 2, 3, 6, 7. Build two 2-digit numbers using each card once. What sum lands closest to 100?

WORK IT OUT HERE

28 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 1, 2, 7, 8. Use each digit once to make two 2-digit numbers. What is the closest sum to 100?

WORK IT OUT HERE

29 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 1, 3, 5, 8. Use each card once and find the closest sum to 100 you can reach.

WORK IT OUT HERE

30 MAKE HUNDRED (CLOSEST-SUM CARDS)

Cards 2, 3, 5, 7. Using each card once, what is the closest sum to 100?

WORK IT OUT HERE

31 ROUND AND REPAY (2-DIGIT)

What is 54 + 38?

WORK IT OUT HERE

32 ROUND AND REPAY (2-DIGIT)

47 + 29 = ?

WORK IT OUT HERE

33 ROUND AND REPAY (2-DIGIT)

63 + 28 = ?

WORK IT OUT HERE

34 ROUND AND REPAY (2-DIGIT)

74 + 19 = ?

WORK IT OUT HERE

35 ROUND AND REPAY (2-DIGIT)

A bookstore sold 55 books on Saturday and 39 on Sunday. How many books did it sell that weekend?

WORK IT OUT HERE

36 ROUND AND REPAY (2-DIGIT)

A bus has 46 passengers and 48 more climb on at the next stop. How many passengers now?

WORK IT OUT HERE

37 ROUND AND REPAY (2-DIGIT)

You collect 67 bottle caps, then find 29 more in a drawer. How many bottle caps in all?

WORK IT OUT HERE

38 ROUND AND REPAY (2-DIGIT)

A garden has 82 tulips and 18 daffodils. How many flowers grow in the garden?

WORK IT OUT HERE

39 ROUND AND REPAY (2-DIGIT)

A class read 86 pages on Monday and 48 pages on Tuesday. How many pages did they read over the two days?

WORK IT OUT HERE

40 ROUND AND REPAY (2-DIGIT)

A food drive collected 138 cans, then a second school added 49 more. How many cans were collected in total?

WORK IT OUT HERE

41 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

What is 63 − 28?

WORK IT OUT HERE

42 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

72 − 47 = ?

WORK IT OUT HERE

43 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

54 − 29 = ?

WORK IT OUT HERE

44 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

81 − 38 = ?

WORK IT OUT HERE

45 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

A bakery made 95 muffins and sold 47 before lunch. How many muffins are left?

WORK IT OUT HERE

46 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

There are 84 stickers in a pack and you give away 39. How many stickers do you have left?

WORK IT OUT HERE

47 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

A pond has 76 frogs and 28 hop away. How many frogs remain?

WORK IT OUT HERE

48 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

You have 90 trading cards and trade away 49. How many cards are left?

WORK IT OUT HERE

49 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

A theatre has 132 seats and 58 are taken. How many seats are still empty?

WORK IT OUT HERE

50 SUBTRACT BY ROUNDING THE SUBTRAHEND UP

A jar holds 145 jelly beans. You eat 39 and your friend eats 28. How many jelly beans are left?

WORK IT OUT HERE

51 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 2, 3, 5, 6, 8. Build two 3-digit numbers using each card once — what is the closest sum to 1000 you can make?

WORK IT OUT HERE

52 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 2, 4, 5, 7, 8. Use each card once to build two 3-digit numbers. What sum closest to 1000 can you reach?

WORK IT OUT HERE

53 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 2, 3, 6, 7, 8. Make two 3-digit numbers using each card once. What is the closest sum to 1000?

WORK IT OUT HERE

54 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 3, 4, 5, 6, 8. Build two 3-digit numbers using each card once. What sum lands closest to 1000?

WORK IT OUT HERE

55 MAKE THOUSAND (HUNDREDS-FIRST)

At a digit-card carnival, Rosa is dealt cards 2, 3, 5, 7, 8, and 9. Using each card once, she builds two 3-digit numbers and adds them. What sum closest to 1000 can she reach?

WORK IT OUT HERE

56 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 2, 3, 4, 5, 6, 7. Use each card once to make two 3-digit numbers. What sum closest to 1000 can you reach?

WORK IT OUT HERE

57 MAKE THOUSAND (HUNDREDS-FIRST)

Lila pulls locker-tag digits 2, 3, 5, 6, 7, and 8. Using each digit once, she builds two 3-digit numbers. What is the closest sum to 1000 she can reach?

WORK IT OUT HERE

58 MAKE THOUSAND (HUNDREDS-FIRST)

At a science fair, Leo collects ribbon-number cards 2, 3, 5, 6, 7, and 8. Using each digit once, he builds two 3-digit scores and adds them. What sum closest to 1000 can he make?

WORK IT OUT HERE

59 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 2, 3, 7, 8, 9. Build two 3-digit numbers using each card once. What is the closest sum you can reach?

WORK IT OUT HERE

60 MAKE THOUSAND (HUNDREDS-FIRST)

Cards 1, 2, 3, 4, 6, 8. Use each card once to make two 3-digit numbers. What is the closest sum to 1000?

WORK IT OUT HERE

61 SAFE-SIDE ROUNDING

Items cost $19, $22, and $38. You have $90. Round each price up to check: is $90 enough? Answer Yes or No.

WORK IT OUT HERE

62 SAFE-SIDE ROUNDING

Snacks cost $23 and $18. You have $60. Round each price up to check: is $60 enough? Answer Yes or No.

WORK IT OUT HERE

63 SAFE-SIDE ROUNDING

A field-trip kit costs $28, $31, and $19. You have $100. Round each price up to check: is $100 enough? Answer Yes or No.

WORK IT OUT HERE

64 SAFE-SIDE ROUNDING

Items cost $24, $48, and $33. You have $100. Round each price up to check: is $100 enough? Answer Yes or No.

WORK IT OUT HERE

65 SAFE-SIDE ROUNDING

You want toys priced $21, $34, and $17, and you have a $100 bill. Round up to decide: is $100 enough? Answer Yes or No.

WORK IT OUT HERE

66 SAFE-SIDE ROUNDING

Party supplies cost $38, $47, and $22. You have $100. Round up to check: is $100 enough? Answer Yes or No.

WORK IT OUT HERE

67 SAFE-SIDE ROUNDING

A bus seats 50. Three school clubs have 18, 14, and 19 members. Round each group up to check: will everyone fit on one bus? Answer Yes or No.

WORK IT OUT HERE

68 SAFE-SIDE ROUNDING

You have 75 minutes before dinner. Three chores take 19, 22, and 13 minutes. Round each up to check: is 75 minutes enough? Answer Yes or No.

WORK IT OUT HERE

69 SAFE-SIDE ROUNDING

You have $120 for a backpack ($48), shoes ($59), and a water bottle ($18). Round each price up to decide: is $120 enough? Answer Yes or No.

WORK IT OUT HERE

70 SAFE-SIDE ROUNDING

A hall holds 200 seats. Four classes have 42, 33, 47, and 38 students. Round each class up to check: will every student have a seat? Answer Yes or No.

WORK IT OUT HERE

Answer Key

Each answer comes with a hint that names the move. The tag says which video to rewatch if you are stuck.

1. **13** — *Bend and Repay*
Bend 9 up to 10 (that takes 1 from the 4, leaving 3), add to make 10, then repay by adding the leftover 3.

2. **16** — *Bend and Repay*
Bend 9 up to 10 using 1 from the 7, then add the remaining 6 to 10.

3. **14** — *Bend and Repay*
Bend 8 up to 10 using 2 from the 6, then add the leftover 4 to 10.

4. **17** — *Bend and Repay*
Bend 9 up to 10 using 1 from the 8, then add the remaining 7 to 10.

5. **26** — *Bend and Repay*
Bend 19 up to 20 by taking 1 from the 7, add to reach 20, then add the leftover 6.

6. **34** — *Bend and Repay*
Bend 29 up to 30 by taking 1 from the 5, then add the leftover 4 to 30.

7. **57** — *Bend and Repay*
Bend 49 up to 50 by taking 1 from the 8, then add the leftover 7 to 50.

8. **24** — *Bend and Repay*
Bend 18 up to 20 by taking 2 from the 6, then add the leftover 4 to 20.

9. **103** — *Bend and Repay*
Bend 98 up to 100 by taking 2 from the 5, then add the leftover 3 to 100.

10. **205** — *Bend and Repay*
Bend 199 up to 200 by taking 1 from the 6, then add the leftover 5 to 200.

11. **13** — *Make Ten*
Make ten first: 8 needs 2, so split the 5 into 2 + 3, add the 2 to make 10, then add the 3.

12. **13** — *Make Ten*
Make ten first: 7 needs 3, so split the 6 into 3 + 3, make 10, then add the leftover 3.

13. **13** — *Make Ten*
Make ten first: 9 needs 1, so split the 4 into 1 + 3, make 10, then add the leftover 3.

14. **14** — *Make Ten*
Make ten first: 6 needs 4, so split the 8 into 4 + 4, make 10, then add the leftover 4.

15. **15** — *Make Ten*
Make ten first: 8 needs 2, so split the 7 into 2 + 5, make 10, then add the leftover 5.

16. **17** — *Make Ten*
Make ten first: 8 needs 2, so split the 9 into 2 + 7, give the 2 to make 10, then add what is left over.

17. **15** — *Make Ten*
Make ten first: 6 needs 4, so split the 9 into 4 + 5, give the 4 to make 10, then add the leftover 5.

18. **16** — *Make Ten*
Make ten first: 7 needs 3, so split the 9 into 3 + 6, give the 3 to make 10, then add what is left over.

19. **20** — *Make Ten*
Make ten twice: split the 5 into 2 + 3 so 8 + 2 = 10, then make ten again with the 7.

20. **23** — *Make Ten*
Make ten first: 9 needs 1, so split the 8 into 1 + 7 to make 10, then add the 7 and the 6.

21. **100 (74 + 26).** — *Make Hundred (Closest-Sum Cards)*
Aim the columns: pick tens that add to 9 (7 + 2) and ones that add to 10 (4 + 6), so the ones carry.

22. 100 (54 + 46). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (5 + 4) and the ones add to 10 (4 + 6).

23. 100 (84 + 16). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (8 + 1) and the ones add to 10 (4 + 6).

24. 100 (68 + 32). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (6 + 3) and the ones add to 10 (8 + 2), so the ones carry.

25. 101 (82 + 19). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (8 + 1), then put the leftover ones (2 and 9) as close to 10 as you can.

26. 101 (53 + 48). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (5 + 4), then put the leftover ones (3 and 8) as close to 10 as you can.

27. 99 (23 + 76). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (2 + 7 or 3 + 6), then put the leftover ones as close to 10 as you can.

28. 99 (12 + 87). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (1 + 8 or 2 + 7), then put the leftover ones as close to 10 as you can.

29. 98 (83 + 15). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (8 + 1), then put the leftover ones (3 and 5) as close to 10 as you can — you will land just under 100.

30. 98 (75 + 23). — *Make Hundred (Closest-Sum Cards)*
Aim the columns: make the tens add to 9 (7 + 2), then put the leftover ones (5 and 3) as close to 10 as you can — you will land just under 100.

31. 92 — *Round and Repay (2-digit)*
Round 38 up to 40, add 54 + 40, then repay the 2 you added.

32. 76 — *Round and Repay (2-digit)*
Round 29 up to 30, add 47 + 30, then repay the 1 you added.

33. 91 — *Round and Repay (2-digit)*
Round 28 up to 30, add 63 + 30, then repay the 2 you added.

34. 93 — *Round and Repay (2-digit)*
Round 19 up to 20, add 74 + 20, then repay the 1 you added.

35. 94 — *Round and Repay (2-digit)*
Round 39 up to 40, add 55 + 40, then repay the 1 you added.

36. 94 — *Round and Repay (2-digit)*
Round 48 up to 50, add 46 + 50, then repay the 2 you added.

37. 96 — *Round and Repay (2-digit)*
Round 29 up to 30, add 67 + 30, then repay the 1 you added.

38. 100 — *Round and Repay (2-digit)*
Round 18 up to 20, add 82 + 20, then repay the 2 you added.

39. 134 — *Round and Repay (2-digit)*
Round 48 up to 50, add 86 + 50, then repay the 2 you added.

40. 187 — *Round and Repay (2-digit)*
Round 49 up to 50, add 138 + 50, then repay the 1 you added.

41. 35 — *Subtract by Rounding the Subtrahend Up*
Round the 28 up to 30 and subtract 63 − 30; since you took away 2 too many, add back 2.

42. **25** — *Subtract by Rounding the Subtrahend Up*
Round the 47 up to 50 and subtract 72 − 50; since you took away 3 too many, add back 3.

43. **25** — *Subtract by Rounding the Subtrahend Up*
Round the 29 up to 30 and subtract 54 − 30; since you took away 1 too many, add back 1.

44. **43** — *Subtract by Rounding the Subtrahend Up*
Round the 38 up to 40 and subtract 81 − 40; since you took away 2 too many, add back 2.

45. **48** — *Subtract by Rounding the Subtrahend Up*
Round the 47 up to 50 and subtract 95 − 50; since you took away 3 too many, add back 3.

46. **45** — *Subtract by Rounding the Subtrahend Up*
Round the 39 up to 40 and subtract 84 − 40; since you took away 1 too many, add back 1.

47. **48** — *Subtract by Rounding the Subtrahend Up*
Round the 28 up to 30 and subtract 76 − 30; since you took away 2 too many, add back 2.

48. **41** — *Subtract by Rounding the Subtrahend Up*
Round the 49 up to 50 and subtract 90 − 50; since you took away 1 too many, add back 1.

49. **74** — *Subtract by Rounding the Subtrahend Up*
Round the 58 up to 60 and subtract 132 − 60; since you took away 2 too many, add back 2.

50. **78** — *Subtract by Rounding the Subtrahend Up*
Round each subtracted number up (39→40, 28→30) and take both away, then add back the 1 and the 2 you over-removed.

51. **997 (835 + 162).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (8 + 1), the tens to add to 9 (3 + 6), and the ones as close to 10 as the leftovers (5 and 2) allow.

52. **999 (875 + 124).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (8 + 1), the tens to add to 9 (7 + 2), and the ones as close to 10 as the leftovers (5 and 4) allow.

53. **999 (876 + 123).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (8 + 1), the tens to add to 9 (7 + 2), and the ones as close to 10 as the leftovers (6 and 3) allow.

54. **999 (658 + 341).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (6 + 3), the tens to add to 9 (5 + 4), and the ones as close to 10 as the leftovers (8 and 1) allow.

55. **997 (for example, 238 + 759).** — *Make Thousand (Hundreds-First)*
Work left to right: pair the hundreds to add to 9 (2 + 7). Then notice the leftover cards 3, 5, 8, 9 cannot make the tens add to 9 — take the closest tens pair and let the ones overflow past 10 to make up the gap.

56. **999 (765 + 234).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (7 + 2), the tens to add to 9 (6 + 3), and the ones as close to 10 as the leftovers (5 and 4) allow.

57. **1003 (235 + 768).** — *Make Thousand (Hundreds-First)*
Work left to right: aim the hundreds to add to 9 (try 2 + 7 or 3 + 6), then the tens to add to 9 from the leftovers, and put the last two cards in the ones — you will land just over 1000.

58. **1003 (for example, 235 + 768).** — *Make Thousand (Hundreds-First)*

Work left to right: aim the hundreds to add to 9 (2 + 7 or 3 + 6), the tens to add to 9 with the leftovers, and let the ones add up — the carry chain will land you just past 1000.

59. **1002 (879 + 123).** — *Make Thousand (Hundreds-First)*

Work left to right: aim the hundreds to add to 9 (8 + 1), the tens to add to 9 (7 + 2), then the leftover ones (9 and 3) push you just over 1000.

60. **996 (612 + 384).** — *Make Thousand (Hundreds-First)*

Work left to right: aim the hundreds to add to 9 (6 + 3), the tens to add to 9 (8 + 1), then the leftover ones (2 and 4) leave you just under 1000.

61. **Yes — they total $79, which is under $90.** — *Safe-Side Rounding*

Round each price up to a friendly number (19→20, 22→25, 38→40), add the rounded prices, and see if that safe-side total still fits under $90.

62. **Yes - rounded up they come to $45, safely under $60 (actual total $41).** — *Safe-Side Rounding*

Round each price up to a friendly number (23->25, 18→20), add the rounded prices, and see if that safe-side total still fits under $60.

63. **Yes - rounded up they come to $85, safely under $100 (actual total $78).** — *Safe-Side Rounding*

Round each price up to a friendly number (28->30, 31→35, 19→20), add the rounded prices, and see if that safe-side total still fits under $100.

64. **No — they total $105, which is over $100.** — *Safe-Side Rounding*

Round each price up to a friendly number (24→25, 48→50, 33→35), add the rounded prices, and check whether that safe-side total goes over $100.

65. **Yes - rounded up they come to $80, safely under $100 (actual total $72).** — *Safe-Side Rounding*

Round each price up to a friendly number (21->25, 34→35, 17→20), add the rounded prices, and see if that safe-side total still fits under $100.

66. **No — they total $107, which is over $100.** — *Safe-Side Rounding*

Round each price up to a friendly number (38→40, 47→50, 22→25), add the rounded prices, and check whether that safe-side total goes over $100.

67. **No — that is 51 members, which is over 50.** — *Safe-Side Rounding*

Round each club size up (18→20, 14→15, 19→20), add the rounded counts, and check whether that safe-side total stays within 50 seats.

68. **Yes - rounded up they come to 60 minutes, so you are safely covered (actual total 54).** — *Safe-Side Rounding*

Round each chore up (19→20, 22→25, 13→15), add the rounded times, and see if that safe-side total still fits within 75 minutes.

69. **No — they total $125, which is over $120.** — *Safe-Side Rounding*

Round each price up to a friendly number (48→50, 59→60, 18→20), add the rounded prices, and check whether that safe-side total goes over $120.

70. **Yes - rounded up they come to 170 seats, safely under 200 (actual total 160).** — *Safe-Side Rounding*

Round each class up (42→45, 33→35, 47→50, 38→40), add the rounded counts, and check whether that safe-side total stays within 200 seats.