

Mental Math · Multiplication Tricks — Practice

CKSTEM Math Problem Solving · Grades 4–6

1 FACTOR PAIRS

Work out 12×25 .

WORK IT OUT HERE

2 FACTOR PAIRS

A baker stacks 25 cookies on each of 8 trays. How many cookies is that in all?

WORK IT OUT HERE

3 FACTOR PAIRS

Find 14×50 .

WORK IT OUT HERE

4 FACTOR PAIRS

Work out 6×50 .

WORK IT OUT HERE

5 FACTOR PAIRS

A field-trip bus holds 24 students. If 25 buses are booked, how many seats is that altogether?

WORK IT OUT HERE

6 FACTOR PAIRS

What is 18×50 ?

WORK IT OUT HERE

7 FACTOR PAIRS

A theatre has 50 rows with 16 seats in each row. How many seats is that?

WORK IT OUT HERE

8 FACTOR PAIRS

Work out 36×25 .

WORK IT OUT HERE

9 FACTOR PAIRS

A school orders 32 boxes of pencils with 25 pencils in each box. How many pencils is that in total?

WORK IT OUT HERE

10 FACTOR PAIRS

A stadium section has 50 rows with 44 seats in each row. How many seats are in the section?

WORK IT OUT HERE

11 DOUBLE AND HALVE

Work out 15×6 .

WORK IT OUT HERE

12 DOUBLE AND HALVE

What is 35×4 ?

WORK IT OUT HERE

13 DOUBLE AND HALVE

Find 15×4 .

WORK IT OUT HERE

14 DOUBLE AND HALVE

Work out 25×6 .

WORK IT OUT HERE

15 DOUBLE AND HALVE

A cafe sells 65 muffins a day. How many muffins is that over 6 days?

WORK IT OUT HERE

16 DOUBLE AND HALVE

What is 45×6 ?

WORK IT OUT HERE

17 DOUBLE AND HALVE

A classroom has 8 shelves with 35 books on each. How many books are there?

WORK IT OUT HERE

18 DOUBLE AND HALVE

Multiply 55×6 .

WORK IT OUT HERE

19 DOUBLE AND HALVE

A relay team runs 75 metres on each of 8 legs. How many metres do they cover in total?

WORK IT OUT HERE

20 DOUBLE AND HALVE

A printer makes 14 copies of a 45-page booklet. How many pages does it print in all?

WORK IT OUT HERE

21 TIMES-FIVE IS TIMES-TEN HALVED

Work out 24×5 .

WORK IT OUT HERE

22 TIMES-FIVE IS TIMES-TEN HALVED

What is 16×5 ?

WORK IT OUT HERE

23 TIMES-FIVE IS TIMES-TEN HALVED

A pack holds 5 stickers. How many stickers are in 32 packs?

WORK IT OUT HERE

24 TIMES-FIVE IS TIMES-TEN HALVED

Find 18×5 .

WORK IT OUT HERE

25 TIMES-FIVE IS TIMES-TEN HALVED

A fitness band gives 5 reward points per workout. After 74 workouts, how many points is that?

WORK IT OUT HERE

26 TIMES-FIVE IS TIMES-TEN HALVED

Each gift bag has 5 chocolates. There are 36 bags. How many chocolates is that?

WORK IT OUT HERE

27 TIMES-FIVE IS TIMES-TEN HALVED

What is 66×5 ?

WORK IT OUT HERE

28 TIMES-FIVE IS TIMES-TEN HALVED

A craft kit comes with 5 beads. A class assembles 58 kits. How many beads is that in all?

WORK IT OUT HERE

29 TIMES-FIVE IS TIMES-TEN HALVED

A roll of tickets is sold in books of 5. A fair hands out 124 books. How many tickets is that?

WORK IT OUT HERE

30 TIMES-FIVE IS TIMES-TEN HALVED

What is 47×5 ?

WORK IT OUT HERE

31 DISTRIBUTE (BREAK-APART)

Multiply 4×21 .

WORK IT OUT HERE

32 DISTRIBUTE (BREAK-APART)Find 4×13 .

WORK IT OUT HERE

33 DISTRIBUTE (BREAK-APART)

A shelf holds 12 cans. There are 6 shelves. How many cans is that?

WORK IT OUT HERE

34 DISTRIBUTE (BREAK-APART)Work out 3×24 .

WORK IT OUT HERE

35 DISTRIBUTE (BREAK-APART)Work out 7×46 .

WORK IT OUT HERE

36 DISTRIBUTE (BREAK-APART)

Work out 9×26 .

WORK IT OUT HERE

37 DISTRIBUTE (BREAK-APART)

A farmer plants 7 rows of 35 carrots. How many carrots is that?

WORK IT OUT HERE

38 DISTRIBUTE (BREAK-APART)

Work out 8×37 .

WORK IT OUT HERE

39 DISTRIBUTE (BREAK-APART)

A box of crayons has 48 crayons. A teacher orders 9 boxes. How many crayons is that?

WORK IT OUT HERE

40 DISTRIBUTE (BREAK-APART)

A stockroom has 9 shelves with 53 jars on each shelf. How many jars is that in all?

WORK IT OUT HERE

41 GREATEST PRODUCT UNDER A CAP

From the cards 4, 7, and 9, pick two different cards for the biggest product that is at most 50. What is that greatest product?

WORK IT OUT HERE

42 GREATEST PRODUCT UNDER A CAP

From the cards 3, 5, and 8, pick two different cards for the largest product that does not pass 45. What is the greatest product?

WORK IT OUT HERE

43 GREATEST PRODUCT UNDER A CAP

From the cards 5, 8, and 10, choose two different cards for the biggest product no more than 60. What is that product?

WORK IT OUT HERE

44 GREATEST PRODUCT UNDER A CAP

From the cards 6, 8, and 9, pick two different cards for the greatest product that is at most 60. What is it?

WORK IT OUT HERE

45 GREATEST PRODUCT UNDER A CAP

From the cards 5, 8, 11, and 14, pick two different cards so the product is as large as possible but at most 120. What is the greatest product?

WORK IT OUT HERE

46 GREATEST PRODUCT UNDER A CAP

From the cards 3, 9, 12, and 20, pick two different cards for the biggest product that stays at or below 200. What is that product?

WORK IT OUT HERE

47 GREATEST PRODUCT UNDER A CAP

From the cards 7, 10, 14, and 16, choose two different cards for the largest product no more than 150. What is the greatest product?

WORK IT OUT HERE

48 GREATEST PRODUCT UNDER A CAP

From the cards 4, 7, 13, and 15, pick two different cards so the product is greatest but at most 200. What is that product?

WORK IT OUT HERE

49 GREATEST PRODUCT UNDER A CAP

A tray game uses the cards 6, 9, 14, 17, and 21. Pick two different cards (rows \times columns) for the fullest tray that holds at most 250 kits. What is the greatest product?

WORK IT OUT HERE

50 GREATEST PRODUCT UNDER A CAP

From the cards 8, 11, 13, 19, and 24, pick two different cards for the largest product that does not pass 300. What is that greatest product?

WORK IT OUT HERE

51 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

Work out 11×23 .

WORK IT OUT HERE

52 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

What is 11×45 ?

WORK IT OUT HERE

53 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

A box holds 11 eggs. How many eggs are in 52 boxes?

WORK IT OUT HERE

54 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

Work out 11×61 .

WORK IT OUT HERE

55 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

A relay covers 11 metres per lap. How far is 48 laps?

WORK IT OUT HERE

56 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

What is 11×27 ?

WORK IT OUT HERE

57 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

Work out 11×85 .

WORK IT OUT HERE

58 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

A relay covers 11 metres per lap. After 69 laps, how far is that in metres?

WORK IT OUT HERE

59 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

Work out 11×99 .

WORK IT OUT HERE

60 TIMES-ELEVEN BY ADDING NEIGHBOURS (WITH CARRY)

A school plants 11 trees along each of 67 streets. How many trees is that in all?

WORK IT OUT HERE

61 SQUARING NEAR A BASE

Work out 15^2 .

WORK IT OUT HERE

62 SQUARING NEAR A BASE

Work out 75^2 .

WORK IT OUT HERE

63 SQUARING NEAR A BASE

A square garden plot is 45 metres on each side. What is its area in square metres?

WORK IT OUT HERE

64 SQUARING NEAR A BASEWork out 55^2 .

WORK IT OUT HERE

65 SQUARING NEAR A BASE

A square tile floor is 65 tiles by 65 tiles. How many tiles is that?

WORK IT OUT HERE

66 SQUARING NEAR A BASEWork out 52^2 .

WORK IT OUT HERE

67 SQUARING NEAR A BASEWork out 53^2 .

WORK IT OUT HERE

68 SQUARING NEAR A BASEWork out 85^2 .

WORK IT OUT HERE

69 SQUARING NEAR A BASEWork out 104^2 .

WORK IT OUT HERE

70 SQUARING NEAR A BASEWork out 98^2 .

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. 300 — Factor Pairs

Regroup so 25 meets a 4 to make 100: split 12 into 3×4 and hand the 4 to the 25; the leftover factor then multiplies the new 100.

2. 200 — Factor Pairs

Pair the 25 with a 4: split 8 into 2×4 , give the 4 to the 25 to make 100, then double it.

3. 700 — Factor Pairs

Regroup so 50 meets a 2: split 14 into 7×2 , give the 2 to the 50 to make 100, then multiply by 7.

4. 300 — Factor Pairs

Pair the 50 with a 2: split 6 into 3×2 , hand the 2 to the 50 to make 100, then multiply by 3.

5. 600 — Factor Pairs

Regroup so 25 meets a 4: split 24 into 6×4 , give the 4 to the 25 to make 100, then multiply by 6.

6. 900 — Factor Pairs

Pair the 50 with a 2: split 18 into 9×2 , hand the 2 to the 50 to make 100, then multiply by 9.

7. 800 — Factor Pairs

Pair the 50 with a 2: split 16 into 8×2 and hand the 2 to the 50 to make 100; the leftover factor multiplies the new 100.

8. 900 — Factor Pairs

Pair the 25 with a 4: split 36 into 9×4 , hand the 4 to the 25 to make 100, then multiply by 9.

9. 800 — Factor Pairs

Regroup so 25 meets a 4: split 32 into 8×4 , give the 4 to the 25 to make 100, then multiply by 8.

10. 2200 — Factor Pairs

Pair the 50 with a 2: split 44 into 22×2 , hand the 2 to the 50 to make 100, then multiply by 22.

11. 90 — Double and Halve

Halve the even factor and double the other: 6 becomes 3 and 15 becomes 30, then multiply 30×3 .

12. 140 — Double and Halve

Halve the even factor and double the other: 4 becomes 2 and 35 becomes 70, then multiply 70×2 .

13. 60 — Double and Halve

Halve the even factor and double the other: 4 becomes 2 and 15 doubles, then multiply the new pair.

14. 150 — Double and Halve

Halve the even factor and double the other: 6 becomes 3 and 25 becomes 50, then multiply 50×3 .

15. 390 — Double and Halve

Halve the even factor and double the other: 6 becomes 3 and 65 becomes 130, then multiply 130×3 .

16. 270 — Double and Halve

Halve the even factor and double the other: 6 becomes 3 and 45 becomes 90, then multiply 90×3 .

17. 280 — Double and Halve

Halve the even factor and double the other: 8 becomes 4 and 35 becomes 70, then multiply 70×4 .

18. 330 — Double and Halve

Halve the even factor and double the other: 6 becomes 3 and 55 becomes 110, then multiply 110×3 .

19. 600 — Double and Halve

Halve and double twice to reach a round number: 75×8 becomes 150×4 , then 300×2 .

20. 630 — *Double and Halve*

Halve the even factor and double the other: 14 becomes 7 and 45 becomes 90, then multiply 90×7 .

21. 120 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

22. 80 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

23. 160 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

24. 90 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

25. 370 — *Times-Five is Times-Ten Halved*

Multiply by 10 first (turn the 5 into a 10), then halve: 74×10 gives 740; now take half of that.

26. 180 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

27. 330 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

28. 290 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

29. 620 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

30. 235 — *Times-Five is Times-Ten Halved*

Multiply by 10 first to turn the 5 into a 10, then take half of that result.

31. 84 — *Distribute (Break-Apart)*

Cut 21 into 20 and 1, multiply each piece by 4, then add the two slices back together.

32. 52 — *Distribute (Break-Apart)*

Cut 13 into 10 and 3, multiply each piece by 4, then add the two slices back together.

33. 72 — *Distribute (Break-Apart)*

Cut 12 into 10 and 2, multiply each piece by 6, then add the two slices back together.

34. 72 — *Distribute (Break-Apart)*

Cut 24 into 20 and 4, multiply each piece by 3, then add the two slices back together.

35. 322 — *Distribute (Break-Apart)*

Cut 46 into 40 and 6, multiply each piece by 7, then add the two slices back together.

36. 234 — *Distribute (Break-Apart)*

Cut 26 into 20 and 6, multiply each piece by 9, then add the two slices back together.

37. 245 — *Distribute (Break-Apart)*

Cut 35 into 30 and 5, multiply each piece by 7, then add the two slices back together.

38. 296 — *Distribute (Break-Apart)*

Cut 37 into 30 and 7, multiply each piece by 8, then add the two slices back together.

39. 432 — *Distribute (Break-Apart)*

Cut 48 into 40 and 8, multiply each piece by 9, then add the two slices back together.

40. 477 — *Distribute (Break-Apart)*

Split 53 into 50 and 3, multiply each by 9, then add the two slices back together.

41. 36 — *Greatest Product Under a Cap*

Try the two biggest first: $7 \times 9 = 63$ is over 50, so step the larger down to the next card and check 4×9 .

42. 40 — *Greatest Product Under a Cap*

Try the two biggest first: check 5×8 against the cap of 45; if it fits, that is the answer, otherwise step the larger card down to the next one.

43. 50 — *Greatest Product Under a Cap*

Try the two biggest first: $8 \times 10 = 80$ is over 60, so step the larger down to the next card and check 5×10 .

44. 54 — *Greatest Product Under a Cap*

Try the two biggest first: $8 \times 9 = 72$ is over 60, so step the larger down to the next card and check 6×9 .

45. 112 — *Greatest Product Under a Cap*

Try the two biggest first: $11 \times 14 = 154$ is over 120, so step the larger down to the next card and check 8×14 .

46. 180 — *Greatest Product Under a Cap*

Try the two biggest first: $12 \times 20 = 240$ is over 200, so step the larger down to the next card and check 9×20 .

47. 140 — *Greatest Product Under a Cap*

Try the two biggest first: $14 \times 16 = 224$ is over 150, so step the larger down to the next card and check 10×14 .

48. 195 — *Greatest Product Under a Cap*

Try the two biggest first and just estimate: 13 and 15 are near 13 and 15, so their product lands just under 200, which means they already fit.

49. 238 — *Greatest Product Under a Cap*

Try the two biggest first: $17 \times 21 = 357$ is over 250, so step the larger down card by card and check 14×17 .

50. 264 — *Greatest Product Under a Cap*

Try the two biggest first: $19 \times 24 = 456$ is over 300, so step the larger down card by card and check 11×24 .

51. 253 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 23 apart and drop their sum in the gap between them; no carry is needed here because the sum stays under 10.

52. 495 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 45 apart and drop their sum in the gap between them; the sum stays under 10, so no carry.

53. 572 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 52 apart and drop their sum in the gap between them; the sum stays under 10, so no carry.

54. 671 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 61 apart and drop their sum in the gap between them; the sum stays under 10, so no carry.

55. 528 — *Times-Eleven by Adding Neighbours (with carry)*

Keep the outer digits 4 and 8, but their sum $4 + 8 = 12$ is 10 or more, so write 2 and carry 1 into the leading digit.

56. 297 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 27 apart and drop their sum in the gap between them; check whether the sum hits 10 — if it stays under, no carry is needed.

57. 935 — *Times-Eleven by Adding Neighbours (with carry)*

Keep the outer digits 8 and 5, but their sum $8 + 5 = 13$ is 10 or more, so write 3 and carry 1 into the leading digit.

58. 759 — *Times-Eleven by Adding Neighbours (with carry)*

Spread the digits of 69 apart and slot their sum in the gap; the sum is 10 or more, so write its ones digit and carry 1 into the leading digit.

59. 1089 — *Times-Eleven by Adding Neighbours (with carry)*

Keep the outer digits 9 and 9, but their sum $9 + 9 = 18$ is 10 or more, so write 8 and carry 1 left through the digits.

60. 737 — *Times-Eleven by Adding Neighbours (with carry)*

Keep the outer digits 6 and 7, but their sum $6 + 7 = 13$ is 10 or more, so write 3 and carry 1 into the leading digit.

61. 225 — *Squaring Near a Base*

It ends in 5: multiply the tens digit by the next whole number up, then tack 25 onto the end.

62. 5625 — *Squaring Near a Base*

It ends in 5: multiply the tens digit by the next whole number up, then tack 25 onto the end.

63. 2025 — *Squaring Near a Base*

It ends in 5, so multiply the tens digit by the next number up, 4×5 , then tack 25 on the end.

64. 3025 — *Squaring Near a Base*

It ends in 5, so multiply the tens digit by the next number up, 5×6 , then tack 25 on the end.

65. 4225 — *Squaring Near a Base*

It ends in 5, so multiply the tens digit by the next number up, 6×7 , then tack 25 on the end.

66. 2704 — *Squaring Near a Base*

It sits just above the base 50: square the base, then add the two strip rectangles (each is $50 \times$ the overshoot) and the small corner square.

67. 2809 — *Squaring Near a Base*

It sits just above the base 50: start by squaring the base to get 2500, then add the two strips and the corner.

68. 7225 — *Squaring Near a Base*

It ends in 5, so multiply the tens digit by the next number up, 8×9 , then tack 25 on the end.

69. 10816 — *Squaring Near a Base*

It sits just above the base 100: square the base, then add the two strip rectangles (each is $100 \times$ the overshoot) and the small corner square.

70. 9604 — *Squaring Near a Base*

It sits just under the base 100: square the base, trim the two strips (each is $100 \times$ the shortfall), then add the small corner square because the strips overlapped at the corner.