

Mental Math Problem Sets

Making Tens

First, look for "quick tens" (two addends with a sum of ten).
Next, decompose one or more numbers to make a quick ten.

$9 + 1$ $9 + 3 + 1$ $9 + 5 + 1$	$5 + 5$ $5 + 5 + 4$ $5 + 3 + 5$	$8 + 2$ $8 + 3 + 2$ $2 + 5 + 8$
$3 + 7$ $7 + 5 + 3$ $3 + 6 + 7$	$4 + 6$ $4 + 6 + 4$ $6 + 5 + 4$	$1 + 8 + 9$ $9 + 3 + 1$ $1 + 6 + 9$
$4 + 6 + 8 + 2$ $9 + 3 + 1 + 7$ $5 + 6 + 5 + 4$	$3 + 8 + 2 + 7$ $4 + 4 + 6 + 6$ $9 + 1 + 1 + 9$	$5 + 3 + 5 + 4 +$ 7 $9 + 5 + 8 + 2 +$ 1 $4 + 5 + 6 + 3 +$ 7
$9 + 1$ $9 + 1 + 4$ $9 + 5$ $9 + 8$	$8 + 2$ $8 + 2 + 3$ $8 + 5$ $8 + 4$	$7 + 3$ $7 + 3 + 2$ $7 + 5$ $7 + 6$

Making Landmark or Friendly Numbers

Adjust one or all of the addends by adding or subtracting amounts to make a friendlier number.

$10 + 10$ $9 + 9$ $9 + 8$	$20 + 20$ $19 + 20$ $19 + 19$	$20 + 5$ $19 + 1 + 4$ $19 + 5$ $19 + 8$
$29 + 1$ $29 + 5$ $29 + 13$ $29 + 24$ $29 + 29$	$60 + 7$ $59 + 1 + 6$ $59 + 7$ $59 + 12$ $59 + 22$	$40 + 4$ $39 + 4$ $39 + 15$ $39 + 39$
$50 + 6$ $48 + 2 + 4$ $48 + 6$ $48 + 13$ $48 + 25$	$80 + 5$ $78 + 2 + 3$ $78 + 5$ $78 + 15$ $78 + 17$	$20 + 30$ $19 + 29$ $18 + 28$ $19 + 26$
$28 + 16$ $25 + 38$ $23 + 27$ $28 + 45$	$58 + 36$ $24 + 78$ $88 + 14$ $68 + 33$	$48 + 4 + 48$ $48 + 49 + 3$ $98 + 97 + 5$ $99 + 98 + 97 +$ 5

Subtracting by Adding Up

This strategy allows students to build on their strength with addition by adding up from the number being subtracted (subtrahend) to the whole (minuend). The larger the jumps, the more efficient the strategy will be.

$20 - 15$ $20 - 14$ $20 - 12$	$30 - 19$ $30 - 14$ $30 - 24$ $30 - 21$	$50 - 39$ $50 - 44$ $50 - 24$ $50 - 33$
$30 - 25$ $30 - 23$ $30 - 15$ $30 - 12$	$70 - 59$ $70 - 34$ $70 - 49$ $78 - 18$	$60 - 49$ $60 - 29$ $60 - 39$ $60 - 19$
$15 - 9$ $17 - 9$ $14 - 9$ $16 - 9$	$23 - 19$ $23 - 16$ $23 - 14$ $23 - 9$	$44 - 39$ $44 - 35$ $44 - 29$ $44 - 25$
$200 - 174$ $200 - 149$ $200 - 124$ $200 - 99$	$400 - 349$ $400 - 299$ $400 - 274$ $200 - 199$	$1000 - 899$ $1000 - 749$ $1000 - 624$ $1000 - 499$

Removal

Starting with the whole, the subtrahend is removed in parts. The ability to decompose numbers into easy-to-remove parts give students access to this strategy. Encouraging students to keep the whole (minuend) intact and remove the subtrahend in parts is important.

$12 - 2$ $12 - 5$ $15 - 5$ $15 - 6$	$21 - 1$ $21 - 6$ $23 - 3$ $23 - 6$	$35 - 5$ $35 - 6$ $35 - 8$ $35 - 9$
$20 - 10$ $20 - 16$ $30 - 10$ $30 - 12$	$47 - 10$ $47 - 16$ $47 - 20$ $47 - 24$	$78 - 20$ $78 - 23$ $78 - 50$ $78 - 54$
$35 - 10$ $35 - 13$ $35 - 20$ $35 - 24$	$56 - 10$ $56 - 12$ $56 - 30$ $56 - 35$	$87 - 40$ $87 - 44$ $87 - 50$ $87 - 53$
$91 - 60$ $91 - 63$ $94 - 50$ $95 - 56$	$100 - 80$ $100 - 86$ $100 - 30$ $100 - 37$	$150 - 15$ $150 - 100$ $150 - 115$ $153 - 115$

Multiplying by Making Landmark or Friendly Numbers

The following problems sets are intentionally ordered to help students use the relationships from the sequence to solve the final 1 x 3-digit problem.

4×25 4×200 4×250 4×249	3×10 3×50 3×100 3×149	6×20 6×100 6×120 6×119
8×50 8×100 8×200 8×199	2×25 4×25 8×25 10×25 16×25	6×40 10×40 16×40 16×39
3×50 50×50 53×50 53×48	2×150 10×150 12×150 12×149	5×200 20×200 25×200 25×199
10×10 10×30 2×30 12×29	5×10 5×50 10×50 15×50 15×49	6×600 10×600 16×600 16×599