

4. [+ Whole Numbers]

Skill 4.1 Understanding different terms used for addition.

MM2.2 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

- Consider the words used with the numbers.
Addition is associated with words like: **add on, and, plus, sum of, total of, increasing by, more than, all together.**

Q. The sum of 7 and 2 is

A. $7 + 2 = 9$

'sum of' means adding

a) 6 add on 8 is

b) 10 and 6 makes

c) 3 plus 4 equals

d) 9 and 6 all together make

e) 6 plus 7 equals

f) 9 add on 5 is

g) 5 add on 8 is

h) The sum of 9 and 8 is

i) 9 and 6 makes

j) 4 plus 5 equals

k) Increasing 8 by 5 is

l) 9 more than 3 equals

m) The total of 3 and 6 is

n) 7 add on 4 is

o) The sum of 7 and 6 is

p) 11 and 7 makes

q) The total of 5 and 10 is

r) 6 and 8 all together make

s) 5 and 7 all together make

t) 8 and 8 makes

Skill 4.2 Adding the numbers from 1 to 10 by counting on, using your fingers or pencil marks.

MM2.2 1 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

- Start with the largest number.
- Count on the smaller number using your fingers or pencil marks.

Q.

	3	5	6	8	9
+ 6					

A.

	3	5	6	8	9
+ 6	9	11	12	14	15

6 counting on 3

6 counting on 3



OR



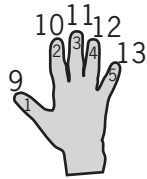
Start with the largest number, 6.

Count on 3 more.

$$6 + 3 = 9$$

a) 8 counting on 5

a) $8 + 5 =$ 13



b) $7 + 7 =$ 7 counting on...

c) $4 + 5 =$

d) $3 + 8 =$

e) $4 + 8 =$

f) $6 + 7 =$

g.

	2	9	3	8	6
+ 3					

h.)

	6	4	8	5	11
+ 8					

i)

	16	8	13	5	29
+ 2					

j)

	13	5	27	18	6
+ 4					

k)

	14	3	26	8	19
+ 7					

l)

	12	4	18	11	9
+ 9					

Skill 4.3 Adding the numbers from 1 to 10 by counting forwards on a number line.

MM2.2 1 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

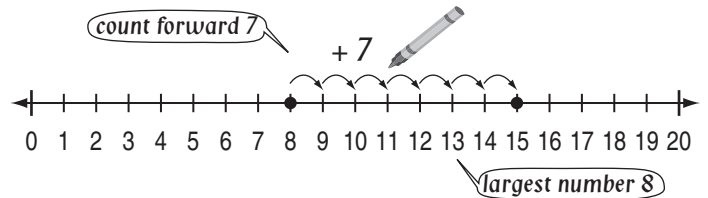
- Mark the largest number in the sum on the number line.
- Use your pencil to count forwards the smallest number.

Q.

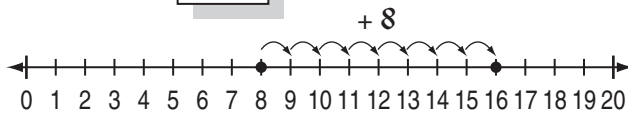
	7	5	26	18	19
+ 8					

A.

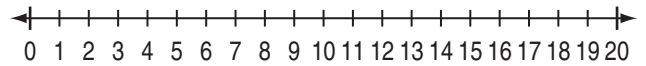
	7	5	26	18	19
+ 8	15	13	34	26	27



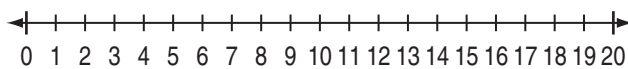
a) $8 + 8 =$



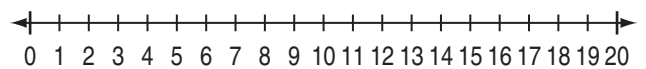
b) $9 + 5 =$



c) $4 + 7 =$

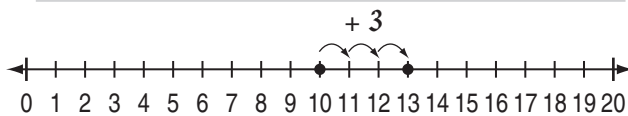


d) $6 + 6 =$



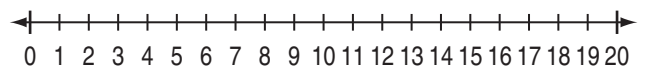
e)

	10	5	7	2	8
+ 3	13				



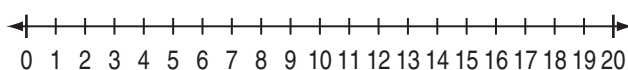
f)

	2	8	9	3	6
+ 7					



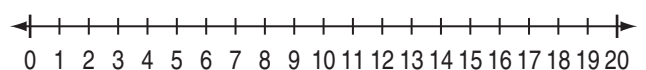
g)

	3	7	9	4	2
+ 8					



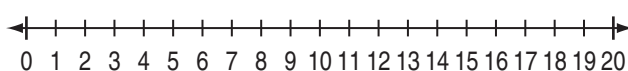
h)

	4	8	9	5	11
+ 9					



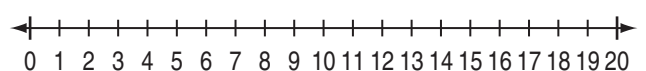
i)

	7	15	19	12	14
+ 6					



j)

	23	18	20	25	27
+ 4					



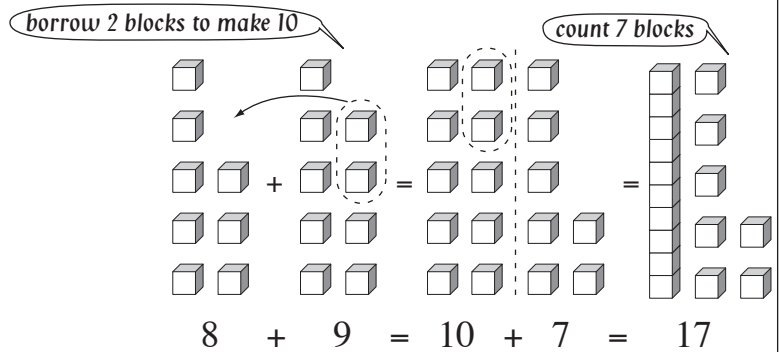
Skill 4.4 Adding the numbers from 1 to 10 by using base 10 blocks.

MM2.2 1 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

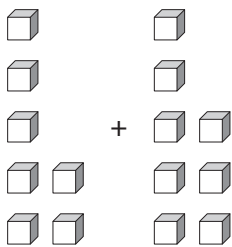
- Use blocks to represent both numbers.
- Borrow blocks from the second number to make the first number a ten, if possible. Add to this ten the remaining blocks to complete the addition.
- Count the number of blocks.

Q. $8 + 9 = \square$

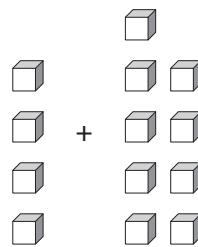
A. $8 + 9 = 17$



a) $7 + 8 = 15$



b) $4 + 9 = \square$



c)

	3	5	7	2	1
+ 2					

d)

	3	7	8	5	6
+ 7					

e)

	4	6	7	9	5
+ 5					

f)

	9	12	5	13	26
+ 6					

g)

	24	6	37	19	15
+ 8					

h)

	29	12	15	23	6
+ 9					

Skill 4.5 Adding the numbers from 1 to 10 by first making 10 or the nearest multiple of 10.

MM2.2 1 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

- Find the biggest number in the addition.
- Ask yourself, “What number added to this number makes 10 (or the nearest multiple of 10)?”
- Break down the other number in the addition to include the number you need.
- Add the two numbers that make 10 (or 20, 30, 40 etc).
- Complete the addition.

Q.

	5	7	9	8	6
+ 7					

A.

	5	7	9	8	6
+ 7	12	14	16	15	13

$$\begin{aligned}
 7 + 5 &= \text{break down the 5} \\
 &= 7 + 3 + 2 \\
 \begin{array}{c} \blacksquare\blacksquare\blacksquare \\ \blacksquare\blacksquare\blacksquare \end{array} + \begin{array}{c} \blacksquare\blacksquare \\ \blacksquare\blacksquare \end{array} + \blacksquare \\
 &= 7 + 3 + 2 \text{ make 10} \\
 &= 10 + 2 \\
 &= 12
 \end{aligned}$$

a) $6 + 9 =$

$= 9 + 1 + 5$

$= 9 + 1 + 5$

$10 + 5 =$

15

b) $8 + 17 =$

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g)

	12	16	7	23	14
+ 9					

h)

	16	25	9	7	8
+ 6					

i)

	9	16	18	7	26
+ 5					

j)

	17	8	9	25	13
+ 8					

Adding 10 to a single digit number

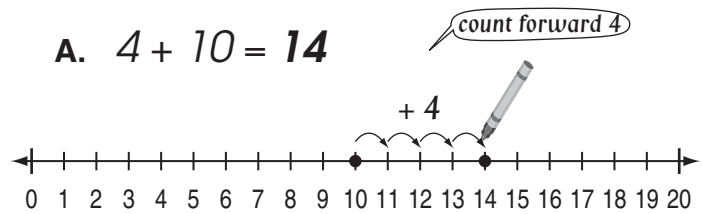
- Mark 10 on the number line.
- Use your pencil to count forwards the single digit number.

Adding 10 to a double digit number

- Keep the units digit of the double digit number.
- Add 1 to the tens digit of the double digit number.

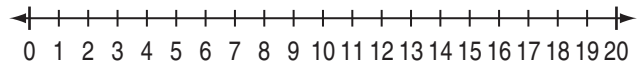
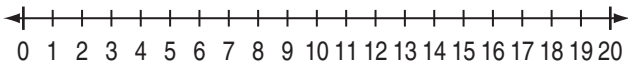
Q. $4 + 10 = \square$

A. $4 + 10 = 14$



a) $10 + 3 = \square$

b) $5 + 10 = \square$



c) $8 + 10 = \square$

d) $10 + 10 = \square$

e) $9 + 10 = \square$

f) $10 + 7 = \square$

g) $10 + 6 = \square$

h) $3 + 10 = \square$

i) $14 + 10 = \square$

j) $10 + 18 = \square$

k) $10 + 17 = \square$

l) $27 + 10 = \square$

m) $25 + 10 = \square$

n) $10 + 22 = \square$

o) $26 + 10 = \square$

p) $31 + 10 = \square$

q) $36 + 10 = \square$

r) $10 + 34 = \square$

Skill 4.7 Adding two 2-digit numbers by separately adding the tens and the units, and then adding the results.

MM2.2 11 2 33 44
MM3.1 11 2 33 44

- Add the tens.
- Add the units.
- Add the totals.

Q. $15 + 27 = \square$

A. $10 + 20 = 30$ — add the tens
 $5 + 7 = 12$ — add the units
 $30 + 12 = 42$

a) $14 + 24 =$

$10 + 20 = 30$

$4 + 4 = 8$

$30 + 8 = 38$

b) $32 + 13 =$

$30 + 10 =$

$2 + 3 =$

\square

c) $26 + 21 =$

\square

d) $48 + 20 =$

\square

e) $19 + 31 =$

\square

f) $22 + 36 =$

\square

g) $26 + 15 =$

\square

h) $18 + 37 =$

\square

i) $49 + 34 =$

\square

j) $33 + 28 =$

\square

k) $46 + 19 =$

\square

l) $27 + 35 =$

\square

Skill 4.8 Adding multi-digit whole numbers by using the standard algorithm, no carry.

MM2.2 11 22 33 44
MM3.1 11 22 33 44

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

$$\begin{array}{r} 16 \\ + 42 \\ \hline \square \end{array}$$

A.

$$\begin{array}{r} \text{tens} \quad \text{units} \\ 16 \\ + 42 \\ \hline 58 \end{array}$$

Units first!

Units:
 $6 + 2 = 8 \Rightarrow 8 \text{ units}$

Tens:
 $1 + 4 = 5 \Rightarrow 5 \text{ tens}$

a)

$$\begin{array}{r} 32 \\ + 27 \\ \hline 59 \end{array}$$

Units first!

b)

$$\begin{array}{r} 25 \\ + 51 \\ \hline \square \end{array}$$

c)

$$\begin{array}{r} 16 \\ + 72 \\ \hline \square \end{array}$$

d)

$$\begin{array}{r} 21 \\ 45 \\ + 13 \\ \hline \square \end{array}$$

e)

$$\begin{array}{r} 22 \\ 22 \\ + 24 \\ \hline \square \end{array}$$

f)

$$\begin{array}{r} 33 \\ 41 \\ + 12 \\ \hline \square \end{array}$$

g)

$$\begin{array}{r} 234 \\ + 152 \\ \hline \square \end{array}$$

h)

$$\begin{array}{r} 434 \\ + 363 \\ \hline \square \end{array}$$

i)

$$\begin{array}{r} 571 \\ + 208 \\ \hline \square \end{array}$$

j)

$$\begin{array}{r} 522 \\ + 361 \\ \hline \square \end{array}$$

k)

$$\begin{array}{r} 106 \\ + 443 \\ \hline \square \end{array}$$

l)

$$\begin{array}{r} 429 \\ + 540 \\ \hline \square \end{array}$$

m)

$$\begin{array}{r} 435 \\ + 34 \\ \hline \square \end{array}$$

n)

$$\begin{array}{r} 480 \\ + 402 \\ \hline \square \end{array}$$

o)

$$\begin{array}{r} 523 \\ + 263 \\ \hline \square \end{array}$$

Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (1).

- Always keep your working columns in lines. Line up units with units, tens with tens, etc.
- Add from right to left.

Q.

$$\begin{array}{r} 653 \\ + 128 \\ \hline \end{array}$$

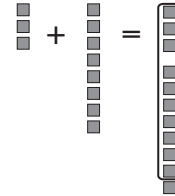
A.

$$\begin{array}{r} \text{hundreds} \\ \text{tens} \\ \text{units} \\ 653 \\ + 128 \\ \hline 781 \end{array}$$

Units first!

Units:

$$3 + 8 = 11 = 1 \text{ ten} + 1 \text{ unit}$$



⇒ 1 unit

Carry over the 1 ten to the tens column.

Tens:

$$5 + 2 + 1 \text{ (carry over)} = 8 \Rightarrow 8 \text{ tens}$$

Hundreds:

$$6 + 1 = 7 \Rightarrow 7 \text{ hundreds}$$

a)

$$\begin{array}{r} 1 \\ 25 \\ + 28 \\ \hline \end{array}$$

53

Units first!

b)

$$\begin{array}{r} 1 \\ 43 \\ + 29 \\ \hline \end{array}$$

c)

$$\begin{array}{r} 28 \\ + 16 \\ \hline \end{array}$$

d)

$$\begin{array}{r} 34 \\ + 27 \\ \hline \end{array}$$

e)

$$\begin{array}{r} 36 \\ + 19 \\ \hline \end{array}$$

f)

$$\begin{array}{r} 27 \\ + 38 \\ \hline \end{array}$$

g)

$$\begin{array}{r} 28 \\ + 14 \\ \hline \end{array}$$

h)

$$\begin{array}{r} 35 \\ + 39 \\ \hline \end{array}$$

i)

$$\begin{array}{r} 25 \\ + 57 \\ \hline \end{array}$$

j)

$$\begin{array}{r} 234 \\ + 556 \\ \hline \end{array}$$

k)

$$\begin{array}{r} 463 \\ + 319 \\ \hline \end{array}$$

l)

$$\begin{array}{r} 428 \\ + 305 \\ \hline \end{array}$$

Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (2).

MM2.2 11 22 3 4 4
MM3.1 11 22 33 44

m)
$$\begin{array}{r} 356 \\ + 137 \\ \hline \end{array}$$

n)
$$\begin{array}{r} 145 \\ + 293 \\ \hline \end{array}$$

o)
$$\begin{array}{r} 253 \\ + 674 \\ \hline \end{array}$$

p)
$$\begin{array}{r} 462 \\ + 184 \\ \hline \end{array}$$

q)
$$\begin{array}{r} 476 \\ + 151 \\ \hline \end{array}$$

r)
$$\begin{array}{r} 354 \\ + 267 \\ \hline \end{array}$$

s)
$$\begin{array}{r} 225 \\ + 478 \\ \hline \end{array}$$

t)
$$\begin{array}{r} 146 \\ + 459 \\ \hline \end{array}$$

u)
$$\begin{array}{r} 517 \\ + 288 \\ \hline \end{array}$$

v)
$$\begin{array}{r} 468 \\ + 183 \\ \hline \end{array}$$

w)
$$\begin{array}{r} 375 \\ + 286 \\ \hline \end{array}$$

x)
$$\begin{array}{r} 337 \\ + 369 \\ \hline \end{array}$$

y)
$$\begin{array}{r} 284 \\ + 158 \\ \hline \end{array}$$

z)
$$\begin{array}{r} 283 \\ + 157 \\ \hline \end{array}$$

A)
$$\begin{array}{r} 149 \\ + 361 \\ \hline \end{array}$$

B)
$$\begin{array}{r} 467 \\ + 234 \\ \hline \end{array}$$

C)
$$\begin{array}{r} 396 \\ + 508 \\ \hline \end{array}$$

D)
$$\begin{array}{r} 185 \\ + 679 \\ \hline \end{array}$$

Skill 4.9 Adding multi-digit whole numbers by using the standard algorithm, with carry (3).

MM2.2 1 1 2 2 3 3 4 4
MM3.1 1 1 2 2 3 3 4 4

E)

$$\begin{array}{r} 4467 \\ + 2234 \\ \hline \end{array}$$

F)

$$\begin{array}{r} 4096 \\ + 1508 \\ \hline \end{array}$$

G)

$$\begin{array}{r} 1850 \\ + 2798 \\ \hline \end{array}$$

H)

$$\begin{array}{r} 3548 \\ + 1903 \\ \hline \end{array}$$

I)

$$\begin{array}{r} 7404 \\ + 397 \\ \hline \end{array}$$

J)

$$\begin{array}{r} 5718 \\ + 2884 \\ \hline \end{array}$$

K)

$$\begin{array}{r} 121 \\ 456 \\ + 57 \\ \hline \end{array}$$

L)

$$\begin{array}{r} 503 \\ 46 \\ + 182 \\ \hline \end{array}$$

M)

$$\begin{array}{r} 643 \\ 231 \\ + 94 \\ \hline \end{array}$$

N)

$$\begin{array}{r} 5371 \\ 1283 \\ + 2389 \\ \hline \end{array}$$

O)

$$\begin{array}{r} 3456 \\ 290 \\ + 1531 \\ \hline \end{array}$$

P)

$$\begin{array}{r} 7241 \\ 1259 \\ + 1396 \\ \hline \end{array}$$

Q)

$$\begin{array}{r} 44537 \\ + 15287 \\ \hline \end{array}$$

R)

$$\begin{array}{r} 62947 \\ + 18281 \\ \hline \end{array}$$

S)

$$\begin{array}{r} 56422 \\ + 31579 \\ \hline \end{array}$$

Skill 4.10 Finding the unknown number in an addition number sentence.

MM2.2 11 22 33 44
MM3.1 11 22 33 44

- Guess the value of the missing number that will make the number sentence true. (Both sides of the number sentence must be equal).
- Fill in this value in the number sentence and check the sum.
*Hint: If the total on the left hand side of the number sentence is not enough then add a larger number.
If the total on the left hand side of the number sentence is too great then add a smaller number.*
- Keep guessing and checking until the number sentence is true.

Q. $4 + \boxed{} = 16$

A. $4 + ? = 16$

$4 + 10 = 14$

$4 + 12 = 16$

Guess 10.

Adding 10 gives a sum of 14 -
not enough so guess a larger number.

Guess 12.

Check again.

a) $13 + \boxed{5} = 18$

$13 + 3 = 16$ (not enough)

$13 + 5 = 18$ ✓

b) $16 + \boxed{} = 23$

$16 + 5 = 21$ (not enough)

c) $\boxed{} + 17 = 25$

d) $\boxed{} + 13 = 32$

e) $8 + \boxed{} = 24$

f) $21 + \boxed{} = 28$

g) $12 + \boxed{} = 29$

h) $11 + \boxed{} = 33$

i) $\boxed{} + 18 = 27$

j) $\boxed{} + 25 = 31$

k) $8 + \boxed{} = 32$

l) $\boxed{} + 11 = 23$