Unit 2
Addition

Topic A: Addition

Addition puts amounts together. The answer of addition is called the **sum** or the **total.**

The **plus sign** **+** means to add.

◊ ◊ ◊ + ◊ ◊ = ◊ ◊ ◊ ◊ ◊

3 + 2 = 5 says **three plus two equals five** or **three and two is five**

The **sum** is 5.

Exercise One

Check out your **addition facts** by doing this exercise as quickly as possible without counting. The highest **total** or **sum** (what the numbers add up to) for these number facts is 20. Check your work using the answer key at the end of the exercise. Then, make a list of any addition facts you do not know or which are slow – practice them. If you feel you need more practice, see your instructor.

a) 6 + 7 = *13*

b) 8 + 3 = *11*

c) 4 + 2 =

d) 8 + 7 =

e) 1 + 2 =

f) 6 + 4 =

g) 5 + 8 =

h) 2 + 5 =

i) 7 + 6 =

j) 0 + 3 =

k) 9 + 7 =

l) 7 + 2 =

m)	4	n)	3	o)	4	p)	8
	+ 4		+ 5		+ 6		+ 1
q)	9	r)	1	s)	0	t)	4
	+ 6		+ 3		+ 2		+ 9
u)	9	v)	4	w)	8	x)	1
	+ 2		+ 1		+ 8		+ 5
y)	7	z)	2	aa)	9	bb)	6
	+ 3		+ 2		+ 5		+ 1
cc)	6	dd)	3	ee)	4	ff)	5
	+ 0		+ 2		+ 8		+ 5

gg) 3 + 6

hh) 9 + 8

ii) 3 + 9

jj) 2 + 3

kk) 1 + 9

ll) 2 + 8

mm) 6 + 6

nn) 5 + 4

oo) 6 + 8

pp) 4 + 5

qq) 1 + 7

rr) 5 + 6

Answers to Exercise One

a) 13	b) 11	c) 6	d) 15	e) 3	f) 10	g) 13
h) 7	i) 13	j) 3	k) 16	l) 9	m) 8	n) 8
o) 10	p) 9	q) 15	r) 4	s) 2	t) 13	u) 11
v) 5	w) 16	x) 6	y) 10	z) 4	aa) 14	bb) 7
cc) 6	dd) 5	ee) 12	ff) 10	gg) 9	hh) 17	ii) 12
jj) 5	kk) 10	ll) 10	mm) 12	nn) 9	oo) 14	pp) 9
qq) 8	rr) 11					

Addition of Larger Numbers

Use these steps to complete each addition question.

Step 1: Add the ones to the ones.

Step 2: Add the tens to the tens.

Step 3: Add the hundreds to the hundreds.

Step 4: Add the thousands to the thousands.

Step 5: Add the ten thousands to the ten thousands.

Etc.

Example A:

$$\begin{array}{r} 23 \\ \underline{+\ 56} \end{array}$$

Step 1: Add the ones to the ones. 3 ones + 6 ones = 9 ones

$$\begin{array}{r} 23 \\ \underline{+\ 56} \\ 9 \end{array}$$

Write the answer in line with the ones in the question.

Step 2: Add the tens. 2 tens + 5 tens = 7 tens

$$\begin{array}{r} 23 \\ \underline{+\ 56} \\ 79 \end{array}$$

The sum of 23 + 56 = 79

Exercise One

Find the sums. Check your work using the answer key at the end of the exercise.

a)	37	b)	55	c)	70	d)	27
	+ 42		+ 22		+ 17		+ 32
e)	87	f)	33	g)	44	h)	34
	+ 12		+ 64		+ 50		+ 11
i)	51	j)	12	k)	17	l)	70
	+ 23		+ 46		+ 21		+ 28
m)	54	n)	62	o)	15	p)	45
	+ 23		+ 14		+ 12		+ 23
q)	23	r)	53	s)	60	t)	49
	+ 64		+ 42		+ 23		+ 10
u)	75	v)	58	w)	31	x)	24
	+ 13		+ 21		+ 28		+ 13

Answers to Exercise One

a) 79	b) 77	c) 87	d) 59	e) 99	f) 97	g) 94
h) 45	i) 74	j) 58	k) 38	l) 98	m) 77	n) 76
o) 27	p) 68	q) 87	r) 95	s) 83	t) 59	u) 88
v) 79	w) 59	x) 37				

Exercise Two

Find the sums. Check your work using the answer key at the end of the exercise.

a) $\begin{array}{r} 54 \\ \underline{+\ 32} \end{array}$ b) $\begin{array}{r} 20 \\ \underline{+\ 69} \end{array}$ c) $\begin{array}{r} 58 \\ \underline{+\ 21} \end{array}$ d) $\begin{array}{r} 62 \\ \underline{+\ 13} \end{array}$

e) $\begin{array}{r} 73 \\ \underline{+\ 14} \end{array}$ f) $\begin{array}{r} 44 \\ \underline{+\ 54} \end{array}$ g) $\begin{array}{r} 10 \\ \underline{+\ 75} \end{array}$ h) $\begin{array}{r} 36 \\ \underline{+\ 22} \end{array}$

i) $\begin{array}{r} 10 \\ \underline{+\ 36} \end{array}$ j) $\begin{array}{r} 16 \\ \underline{+\ 23} \end{array}$ k) $\begin{array}{r} 40 \\ \underline{+\ 50} \end{array}$ l) $\begin{array}{r} 37 \\ \underline{+\ 32} \end{array}$

m) $\begin{array}{r} 14 \\ \underline{+\ 50} \end{array}$ n) $\begin{array}{r} 23 \\ \underline{+\ 16} \end{array}$ o) $\begin{array}{r} 41 \\ \underline{+\ 38} \end{array}$ p) $\begin{array}{r} 40 \\ \underline{+\ 11} \end{array}$

q) $\begin{array}{r} 28 \\ \underline{+\ 70} \end{array}$ r) $\begin{array}{r} 21 \\ \underline{+\ 56} \end{array}$ s) $\begin{array}{r} 72 \\ \underline{+\ 12} \end{array}$ t) $\begin{array}{r} 31 \\ \underline{+\ 14} \end{array}$

u) $\begin{array}{r} 47 \\ \underline{+\ 12} \end{array}$ v) $\begin{array}{r} 34 \\ \underline{+\ 65} \end{array}$ w) $\begin{array}{r} 63 \\ \underline{+\ 34} \end{array}$ x) $\begin{array}{r} 31 \\ \underline{+\ 45} \end{array}$

Answers to Exercise Two

a) 86	b) 89	c) 79	d) 75	e) 87	f) 98	g) 85
h) 58	i) 46	j) 39	k) 90	l) 69	m) 64	n) 39
o) 79	p) 51	q) 98	r) 77	s) 84	t) 45	u) 59
v) 99	w) 97	x) 76				

Exercise Three

Find the sums. Check your work using the answer key at the end of the exercise.

a) 47 + 51

b) 65 + 24

c) 78 + 21

d) 84 + 12

e) 73 + 22

f) 64 + 13

g) 25 + 64

h) 51 + 38

i) 26 + 43

j) 40 + 57

k) 76 + 23

l) 86 + 13

m) 28 + 71

n) 35 + 62

o) 27 + 12

p) 19 + 40

q) 41 + 43

r) 53 + 32

s) 61 + 22

t) 52 + 21

u) 23 + 64

v) 32 + 43

w) 13 + 65

x) 46 + 42

Answers to Exercise Three

a) 98	b) 89	c) 99	d) 96	e) 95	f) 77	g) 89
h) 89	i) 69	j) 97	k) 99	l) 99	m) 99	n) 97
o) 39	p) 59	q) 84	r) 85	s) 83	t) 73	u) 87
v) 75	w) 78	x) 88				

Exercise Four

Find the sums. Check your work using the answer key at the end of the exercise.

a) 32 + 64

b) 23 + 54

c) 61 + 22

d) 83 + 11

e) 32 + 45

f) 63 + 33

g) 75 + 24

h) 46 + 12

i) 44 + 35

j) 25 + 42

k) 41 + 38

l) 54 + 45

m) 25 + 32

n) 35 + 42

o) 32 + 44

p) 22 + 14

q)	57	r)	42	s)	34	t)	25
	+ 21		+ 54		+ 23		+ 42
u)	13	v)	60	w)	34	x)	77
	+ 41		+ 25		+ 62		+ 21

Answers to Exercise Four

a) 96	b) 77	c) 83	d) 94	e) 77	f) 96	g) 99
h) 58	i) 79	j) 67	k) 79	l) 99	m) 57	n) 77
o) 76	p) 36	q) 78	r) 96	s) 57	t) 67	u) 54
v) 85	w) 96	x) 98				

To add three or more numbers together, use the following steps.

Step 1: Add the ones to the ones.

Step 2: Add the tens to the tens.

Step 3: Add the hundreds to the hundreds.

Step 4: Add the thousands to the thousands.

Step 5: Add the ten thousands to the ten thousands.

Example A:

$$\begin{array}{r} 24 \\ 52 \\ \underline{+\ 73} \end{array}$$

Step 1: Add the ones. 4 ones + 2 ones + 3 ones = 9 ones

$$\begin{array}{r} 24 \\ 52 \\ \underline{+\ 73} \\ \mathbf{9} \end{array}$$

Step 2: Add the tens. 2 tens + 5 tens + 7 ten = 14 tens

$$\begin{array}{r} 24 \\ 52 \\ \underline{+\ 73} \\ \mathbf{149} \end{array}$$

Exercise Five

Find the sums. Check your work using the answer key at the end of the exercise.

a) 21
34
+ 44

b) 11
61
+ 15

c) 23
38
+ 41

d) 20
43
+36

e) 13
42
+ 34

f) 33
64
+ 22

g) 44
50
+ 24

h) 37
42
+ 10

i) 55
24
+ 30

j) 82
17
+ 50

k) 45
32
+ 52

l) 70
21
+ 48

m) 12
54
+ 62

n) 25
61
+ 22

o) 32
23
+ 94

p) 33
55
+ 21

q) 31
12
+ 85

r) 41
31
+ 87

s) 17
42
+ 50

t) 56
31
+ 82

u) 32
45
+ 51

v) 24
65
+ 30

w) 51
27
+ 41

x) 22
14
+ 31

Answers to Exercise Five

a) 99	b) 87	c) 102	d) 99	e) 89	f) 119	g) 118
h) 89	i) 109	j) 149	k) 129	l) 139	m) 128	n) 108
o) 149	p) 109	q) 128	r) 159	s) 109	t) 169	u) 128
v) 119	w) 119	x) 67				

Exercise Six

Find the sums. Check your work using the answer key at the end of the exercise.

a)
$$\begin{array}{r} 31 \\ 25 \\ \underline{+\ 41} \end{array}$$

b)
$$\begin{array}{r} 13 \\ 54 \\ \underline{+\ 72} \end{array}$$

c)
$$\begin{array}{r} 23 \\ 31 \\ \underline{+\ 84} \end{array}$$

d)
$$\begin{array}{r} 53 \\ 62 \\ \underline{+\ 14} \end{array}$$

e)
$$\begin{array}{r} 53 \\ 21 \\ \underline{+\ 84} \end{array}$$

f)
$$\begin{array}{r} 14 \\ 21 \\ \underline{+\ 81} \end{array}$$

g)
$$\begin{array}{r} 42 \\ 25 \\ \underline{+\ 61} \end{array}$$

h)
$$\begin{array}{r} 72 \\ 35 \\ \underline{+\ 41} \end{array}$$

i)
$$\begin{array}{r} 42 \\ 13 \\ \underline{+\ 25} \end{array}$$

j)
$$\begin{array}{r} 54 \\ 34 \\ \underline{+\ 61} \end{array}$$

k)
$$\begin{array}{r} 26 \\ 41 \\ \underline{+\ 92} \end{array}$$

l)
$$\begin{array}{r} 22 \\ 16 \\ \underline{+\ 71} \end{array}$$

m)
$$\begin{array}{r} 64 \\ 20 \\ \underline{+\ 83} \end{array}$$

n)
$$\begin{array}{r} 14 \\ 72 \\ \underline{+\ 46} \end{array}$$

o)
$$\begin{array}{r} 53 \\ 15 \\ \underline{+\ 70} \end{array}$$

p)
$$\begin{array}{r} 31 \\ 47 \\ \underline{+\ 91} \end{array}$$

q)	31	r)	21	s)	41	t)	11
	12		22		52		63
	+ 44		+ 84		+ 65		+ 74

u)	31	v)	32	w)	54	x)	24
	42		25		33		62
	+ 53		+ 71		+ 10		+ 50

Answers to Exercise Six

a) 97	b) 139	c) 138	d) 129	e) 158	f) 116	g) 128
h) 148	i) 80	j) 149	k) 159	l) 109	m) 167	n) 132
o) 138	p) 169	q) 87	r) 127	s) 158	t) 148	u) 126
v) 128	w) 97	x) 136				

Exercise Seven

Find the sums. Check your work using the answer key at the end of the exercise.

a)	53	b)	22	c)	60	d)	42
	40		51		14		56
	+ 71		+ 35		+ 23		+ 51

e)	23	f)	42	g)	41	h)	24
	45		46		34		31
	+ 60		+ 51		+ 63		+ 40

i)	40	j)	45	k)	13	l)	52
	23		62		52		27
	+ 62		+ 41		+ 71		+ 30
m)	55	n)	51	o)	12	p)	25
	42		26		41		13
	+ 22		+ 42		+ 83		+ 61
q)	34	r)	12	s)	45	t)	52
	21		62		52		27
	+ 62		+ 41		+ 71		+ 30
u)	53	v)	21	w)	34	x)	37
	20		36		21		51
	+ 62		+ 42		+ 92		+ 21

Answers to Exercise Seven

a) 164	b) 108	c) 97	d) 149	e) 128	f) 139	g) 138
h) 95	i) 125	j) 148	k) 136	l) 109	m) 119	n) 119
o) 136	p) 99	q) 117	r) 115	s) 168	t) 109	u) 135
v) 99	w) 147	x) 109				

Exercise Eight

Find the sums. Check your work using the answer key at the end of the exercise.

a) 32
53
+ 14

b) 42
25
+ 11

c) 24
81
+ 13

d) 52
24
+ 63

e) 54
23
+ 71

f) 25
60
+ 84

g) 41
32
+ 96

h) 31
43
+ 85

i) 15
52
+ 82

j) 43
21
+ 52

k) 81
16
+ 42

l) 56
31
+ 92

m) 37
12
+ 80

n) 63
25
+ 70

o) 70
24
+ 65

p) 25
41
+ 73

q) 41
66
+ 32

r) 24
33
+ 62

s) 52
45
+ 21

t) 71
16
+ 42

u)	64	v)	55	w)	26	x)	44
	12		21		61		53
	+ 90		+ 43		+ 82		+ 31

Answers to Exercise Eight

a) 99	b) 78	c) 118	d) 139	e) 148	f) 169	g) 169
h) 159	i) 149	j) 116	k) 139	l) 179	m) 129	n) 158
o) 159	p) 139	q) 139	r) 119	s) 118	t) 129	u) 166
v) 119	w) 169	x) 128				

Use these steps to complete each addition question.

Step 1: Add the ones to the ones.

Step 2: Add the tens to the tens.

Step 3: Add the hundreds to the hundreds.

Example A:

$$\begin{array}{r} 372 \\ +\ 415 \\ \hline \end{array}$$

Step 1: Add the ones. 2 ones + 5 ones = 7 ones

$$\begin{array}{r} 372 \\ +\ 415 \\ \hline 7 \end{array}$$

Step 2: Add the tens. 7 tens + 1 ten = 8 tens

$$\begin{array}{r} 372 \\ +\ 415 \\ \hline 87 \end{array}$$

Step 3: Add the hundreds. 3 hundreds + 4 hundreds = 7 hundreds

$$\begin{array}{r} 372 \\ +\ 415 \\ \hline 787 \end{array}$$

Exercise Nine

Find the sums. Check your work using the answer key at the end of the exercise.

a) 324
+ 865

b) 514
+ 274

c) 673
+ 326

d) 603
+ 375

e) 174
+ 922

f) 250
+ 618

g) 506
+ 182

h) 514
+ 482

i) 738
+ 510

j) 321
+ 358

k) 215
+ 584

l) 416
+ 352

m) 167
+ 522

n) 315
+ 573

o) 156
+ 732

p) 713
+ 256

q) 135
+ 564

r) 105
+ 632

s) 253
+ 644

t) 535
+ 442

u) 168
+ 421

v) 834
+ 162

w) 422
+ 361

x) 327
+ 462

Answers to Exercise Nine

a) 1 189	b) 788	c) 999	d) 978	e) 1 096	f) 868	g) 688
h) 996	i) 1 248	j) 679	k) 799	l) 768	m) 689	n) 888
o) 888	p) 969	q) 699	r) 737	s) 897	t) 977	u) 589
v) 996	w) 783	x) 789				

Exercise Ten

Find the sums. Check your work using the answer key at the end of the exercise.

a) 286
+ 513

b) 649
+ 250

c) 156
+ 542

d) 503
+ 361

e) 273
+ 620

f) 27
+ 961

g) 852
+ 36

h) 300
+ 50

i) 364
+ 523

j)	568 + 210	k)	432 + 325	l)	621 + 214
m)	312 + 541	n)	135 + 420	o)	231 + 354
p)	532 + 141	q)	537 + 21	r)	145 + 441
s)	235 + 214	t)	723 + 113	u)	521 + 344
v)	624 + 174	w)	524 + 221	x)	463 + 425

Answers to Exercise Ten

a) 799	b) 899	c) 698	d) 864	e) 893	f) 988	g) 888
h) 350	i) 887	j) 778	k) 757	l) 835	m) 853	n) 555
o) 585	p) 673	q) 558	r) 586	s) 449	t) 836	u) 865
v) 798	w) 745	x) 888				

Exercise Eleven

Find the sums. Check your work using the answer key at the end of the exercise.

a) $\begin{array}{r} 172 \\ \underline{+\ 401} \end{array}$

b) $\begin{array}{r} 314 \\ \underline{+\ 553} \end{array}$

c) $\begin{array}{r} 431 \\ \underline{+\ 317} \end{array}$

d) $\begin{array}{r} 213 \\ \underline{+\ 384} \end{array}$

e) $\begin{array}{r} 163 \\ \underline{+\ 224} \end{array}$

f) $\begin{array}{r} 412 \\ \underline{+\ 531} \end{array}$

g) $\begin{array}{r} 731 \\ \underline{+\ 142} \end{array}$

h) $\begin{array}{r} 314 \\ \underline{+\ 524} \end{array}$

i) $\begin{array}{r} 253 \\ \underline{+\ 401} \end{array}$

j) $\begin{array}{r} 243 \\ \underline{+\ 425} \end{array}$

k) $\begin{array}{r} 653 \\ \underline{+\ 434} \end{array}$

l) $\begin{array}{r} 576 \\ \underline{+\ 303} \end{array}$

m) $\begin{array}{r} 732 \\ \underline{+\ 210} \end{array}$

n) $\begin{array}{r} 251 \\ \underline{+\ 734} \end{array}$

o) $\begin{array}{r} 605 \\ \underline{+\ 143} \end{array}$

p) $\begin{array}{r} 715 \\ \underline{+\ 223} \end{array}$

q) $\begin{array}{r} 254 \\ \underline{+\ 125} \end{array}$

r) $\begin{array}{r} 351 \\ \underline{+\ 645} \end{array}$

s) 754
+ 231

t) 425
+ 143

u) 465
+ 233

v) 501
+ 368

w) 335
+ 403

x) 561
+ 234

Answers to Exercise Eleven

a) 573	b) 867	c) 748	d) 597	e) 387	f) 943	g) 873
h) 838	i) 654	j) 668	k) 1 087	l) 879	m) 942	n) 985
o) 748	p) 938	q) 379	r) 996	s) 985	t) 568	u) 698
v) 869	w) 738	x) 795				

Exercise Twelve

Find the sums. Check your work using the answer key at the end of the exercise.

a) 754
+ 231

b) 410
+ 257

c) 653
+ 142

d) 815
+ 170

e) 243
+ 146

f) 615
+ 303

g) 124
+ 762

h) 451
+ 206

i) 705
+ 261

j) 627
+ 512

k) 357
+ 130

l) 725
+ 273

m) 753
+ 902

n) 425
+ 203

o) 652
+ 137

p) 357
+ 132

q) 675
+ 214

r) 802
+ 254

s) 524
+ 321

t) 723
+ 306

u) 243
+152

v) 145
+ 213

w) 262
+ 321

x) 545
+ 131

Answers to Exercise Twelve

a) 985	b) 667	c) 795	d) 985	e) 389	f) 918	g) 886
h) 657	i) 966	j) 1 139	k) 487	l) 998	m) 1 655	n) 628
o) 789	p) 489	q) 889	r) 1 056	s) 845	t) 1 029	u) 395
v) 358	w) 583	x) 676				

To add three or more numbers together, use the following steps.

Step 1: Add the ones to the ones.

Step 2: Add the tens to the tens.

Step 3: Add the hundreds to the hundreds.

Example A:

$$\begin{array}{r} 372 \\ 415 \\ \underline{+\ 210} \end{array}$$

Step 1: Add the ones. 2 ones + 5 ones + 0 ones = 7 ones

$$\begin{array}{r} 372 \\ 415 \\ \underline{+\ 210} \\ 7 \end{array}$$

Step 2: Add the tens. 7 tens + 1 ten + 1 ten = 9 tens

$$\begin{array}{r} 372 \\ 415 \\ \underline{+\ 210} \\ 97 \end{array}$$

Step 3: Add the hundreds.
3 hundreds + 4 hundreds + 2 hundreds = 9 hundreds

$$\begin{array}{r} 372 \\ 415 \\ \underline{+\ 210} \\ 997 \end{array}$$

Exercise Thirteen

Find the sums. Check your work using the answer key at the end of the exercise.

a)
$$\begin{array}{r} 345 \\ 132 \\ \underline{+\ 421} \end{array}$$

b)
$$\begin{array}{r} 524 \\ 630 \\ \underline{+\ 721} \end{array}$$

c)
$$\begin{array}{r} 305 \\ 131 \\ \underline{+\ 422} \end{array}$$

d)
$$\begin{array}{r} 214 \\ 341 \\ \underline{+\ 932} \end{array}$$

e)
$$\begin{array}{r} 821 \\ 324 \\ \underline{+\ 423} \end{array}$$

f)
$$\begin{array}{r} 353 \\ 301 \\ \underline{+\ 624} \end{array}$$

g)
$$\begin{array}{r} 435 \\ 201 \\ \underline{+\ 160} \end{array}$$

h)
$$\begin{array}{r} 641 \\ 322 \\ \underline{+\ 833} \end{array}$$

i)
$$\begin{array}{r} 132 \\ 254 \\ \underline{+\ 413} \end{array}$$

j)
$$\begin{array}{r} 713 \\ 102 \\ \underline{+\ 860} \end{array}$$

k)
$$\begin{array}{r} 245 \\ 321 \\ \underline{+\ 803} \end{array}$$

l)
$$\begin{array}{r} 341 \\ 215 \\ \underline{+\ 840} \end{array}$$

m)
$$\begin{array}{r} 524 \\ 243 \\ \underline{+\ 125} \end{array}$$

n)
$$\begin{array}{r} 253 \\ 114 \\ \underline{+\ 321} \end{array}$$

o)
$$\begin{array}{r} 272 \\ 315 \\ \underline{+\ 410} \end{array}$$

p) 514
231
+ 620

q) 246
351
+ 502

r) 152
331
+ 216

s) 164
233
+ 801

t) 414
231
+ 552

u) 362
627
+ 510

v) 264
535
+ 600

w) 432
653
+ 313

x) 631
216
+ 552

Answers to Exercise Thirteen

a) 898	b) 1 875	c) 858	d) 1 487	e) 1 568	f) 1 278	g) 796
h) 1 796	i) 799	j) 1 675	k) 1 369	l) 1 396	m) 892	n) 688
o) 997	p) 1 365	q) 1 099	r) 699	s) 1 198	t) 1 197	u) 1 499
v) 1 399	w) 1 398	x) 1 399				

Exercise Fourteen

Find the sums. Check your work using the answer key at the end of the exercise.

a) 731
142
+ 523

b) 534
624
+ 741

c) 234
425
+ 740

d)
$$\begin{array}{r} 413 \\ 155 \\ \underline{+\ 231} \end{array}$$

e)
$$\begin{array}{r} 234 \\ 412 \\ \underline{+\ 543} \end{array}$$

f)
$$\begin{array}{r} 525 \\ 241 \\ \underline{+\ 732} \end{array}$$

g)
$$\begin{array}{r} 423 \\ 140 \\ \underline{+\ 735} \end{array}$$

h)
$$\begin{array}{r} 143 \\ 341 \\ \underline{+\ 614} \end{array}$$

i)
$$\begin{array}{r} 142 \\ 410 \\ \underline{+\ 536} \end{array}$$

j)
$$\begin{array}{r} 211 \\ 425 \\ \underline{+\ 731} \end{array}$$

k)
$$\begin{array}{r} 354 \\ 124 \\ \underline{+\ 611} \end{array}$$

l)
$$\begin{array}{r} 342 \\ 153 \\ \underline{+\ 803} \end{array}$$

m)
$$\begin{array}{r} 213 \\ 462 \\ \underline{+\ 524} \end{array}$$

n)
$$\begin{array}{r} 421 \\ 523 \\ \underline{+\ 654} \end{array}$$

o)
$$\begin{array}{r} 124 \\ 135 \\ \underline{+\ 430} \end{array}$$

p)
$$\begin{array}{r} 421 \\ 342 \\ \underline{+\ 836} \end{array}$$

q)
$$\begin{array}{r} 725 \\ 231 \\ \underline{+\ 421} \end{array}$$

r)
$$\begin{array}{r} 752 \\ 304 \\ \underline{+\ 311} \end{array}$$

s)
$$\begin{array}{r} 523 \\ 364 \\ \underline{+\ 411} \end{array}$$

t)
$$\begin{array}{r} 683 \\ 204 \\ \underline{+\ 310} \end{array}$$

u)
$$\begin{array}{r} 821 \\ 146 \\ \underline{+\ 512} \end{array}$$

v)	433	w)	435	x)	275
	125		651		510
	+ 840		+ 812		+ 114

Answers to Exercise Fourteen

a) 1 396	b) 1 899	c) 1 399	d) 799	e) 1 189	f) 1 498	g) 1 298
h) 1 098	i) 1 088	j) 1 367	k) 1 089	l) 1 298	m) 1 199	n) 1 598
o) 689	p) 1 599	q) 1 377	r) 1 367	s) 1 298	t) 1 197	u) 1 479
v) 1 398	w) 1 898	x) 899				

Some people like to check their addition by adding a second time, starting with the bottom number instead of the top number. For example,

63	Add: 3 + 5 = 8	Check: 5 + 3 = 8
+ 35	6 + 3 = 9	3 + 6 = 9
98		

Exercise Fifteen

Find the sums. Check your addition a second time by starting at the bottom. Place a check mark (√) beside your answer after you have added from the bottom to the top. Check your work using the answer key at the end of the exercise.

a)	7 003	b)	6 217	c)	2 271
	+ 2 692		+ 3 732		+ 3 618

d) 5 992
+ 3 006

e) 4 235
+ 1 162

f) 6 518
+ 2 050

g) 1 023
+ 1 553

h) 4 034
+ 2 853

i) 5 234
+ 1 244

j) 41 738
+ 38 051

k) 20 295
+ 46 503

l) 62 041
+ 12 857

m) 73 104
+ 21 620

n) 40 835
+ 25 034

o) 36 125
+ 60 471

p) 40 127
+ 17 361

q) 40 261
+ 49 130

r) 32 651
+ 43 225

Answers to Exercise Fifteen

a)	9 695	b)	9 949	c)	5 889	d)	8 998	e)	5 397	f)	8 568	g)	2 576
h)	6 887	i)	6 478	j)	79 789	k)	66 798	l)	74 898	m)	94 724	n)	65 869
o)	96 596	p)	57 488	q)	89 391	r)	75 876						

If an addition question is written with the numbers side by side, rewrite the question in columns. Put the ones under the ones, the tens under the tens, the hundreds under the hundreds, and so on.

Example A: 263 + 25 = _

$$\begin{array}{r} 263 \\ +\ 25 \\ \hline 288 \end{array}$$

Example B: 316 + 9 560 = _____

$$\begin{array}{r} 316 \\ +\ 9\ 560 \\ \hline 9\ 876 \end{array}$$

Exercise Sixteen

Rewrite each question in columns and find the total. Check your work using the answer key at the end of the exercise.

a) 75 + 512 = _____

b) 372 + 16 = _____

c) 691 + 8 = _____

d) 4 + 275 = _____

e) 3 457 + 112 = _____

f) 2 403 + 340 = _____

g) 730 + 422 + 36 = _____

h) 24 + 333 + 442 = _____

i) 3 000 + 24 132 + 70 534 = _____

j) 34 511 + 3012 + 40 234 = _____

Answers to Exercise Sixteen

a) 587	b) 388	c) 699	d) 279	e) 3 569	f) 2 743	g) 1 188
h) 799	i) 97 666	j) 77 757				

Topic A: Self-Test

Mark /22 **Aim 17/22**

A. Find the sums. Be sure to check your answers. **6 marks**

a) 63 + 25

b) 15 + 72

c) 43 + 54

d) 42 33 + 14

e) 34 22 + 52

f) 21 46 + 72

B. Find the sums. Be sure to check your answers. **6 marks**

a) 421 + 354

b) 832 + 162

c) 956 + 730

d) 375 213 + 611

e) 211 351 + 515

f) 731 245 + 312

C. Find the sums. Be sure to check your answers. **6 marks**

a) 4 235 + 4 730

b) 6 513 + 4 182

c) 8 250 + 3 647

d) 51 672
+ 36 124

e) 25 186
+ 43 503

f) 42 196
+ 70 301

D. Add these numbers. **4 marks**

a) 45 + 21 + 32 =

b) 242 + 325 + 112 =

c) 8 013 + 1 246 + 5 430 =

d) 5 214 + 40 230 + 2 345

Answers to Topic A Self-Test

A.

a) 88 b) 87 c) 97 d) 89 e) 108 f) 139

B.

a) 775 b) 994 c) 1 686 d) 1 199 e) 1 077 f) 1 288

C.

a) 8 965 b) 10 695 c) 11 897 d) 87 796 e) 68 689 f) 112 497

D.

a) 98 b) 679 c) 14 689 d) 47 789

Topic B: Addition with Carrying

When the digits of one column add up to a two digit number (10 or more), you must **carry** the digit to the next column.

Example A:

		1
27	2**7**	**2**7
+ 55	+ 5**5**	+ **5**5
	2	**8**2

Step 1: Add the ones. 7 ones + 5 ones = 12 ones

Rename 12 ones as 1 ten and 2 ones. Write the 2 ones under the ones column and **carry** the ten to be added with the tens column.

Step 2:Add the tens. 1 ten + 2 tens + 5 tens = 8 tens

Example B:

		1	
58	5**8**	**5**8	
+ 76	+ 7**6**	+ **7**6	
		4	**13**4

Step 1: Add the one. 8 ones + 6 ones = 14 ones

Rename the 14 ones as **1** ten and **4** ones.

Write the 4 ones under the ones column and **carry** the ten to be added with the tens column.

Step 2: Add the tens. 1 ten + 5 tens + 7 tens = 13 tens

The 1 hundred can just be written in the sum because there are no other hundreds to add it to.

Exercise One

Find the sums. Check your work using the answer key at the end of the exercise.

a) 62 + 18	b) 46 + 37	c) 49 + 42	d) 44 + 26
e) 17 + 79	f) 23 + 82	g) 28 + 91	h) 54 + 58
i) 68 + 49	j) 66 + 35	k) 99 + 88	l) 89 + 74
m) 37 + 15	n) 55 + 27	o) 29 + 76	p) 35 + 69
q) 54 + 17	r) 72 + 33	s) 26 + 56	t) 38 + 80
u) 47 + 57	v) 83 + 27	w) 39 + 59	x) 78 + 68

Answers to Exercise One

a) 80	b) 83	c) 91	d) 70	e) 96	f) 105	g) 119
h) 112	i) 117	j) 101	k) 187	l) 163	m) 52	n) 82
o) 105	p) 104	q) 71	r) 105	s) 82	t) 118	u) 104
v) 110	w) 98	x) 146				

Exercise Two

Find the sums. Check your work using the answer key at the end of the exercise.

a) $\begin{array}{r} 73 \\ \underline{+\ 52} \end{array}$ b) $\begin{array}{r} 64 \\ \underline{+\ 93} \end{array}$ c) $\begin{array}{r} 65 \\ \underline{+\ 64} \end{array}$ d) $\begin{array}{r} 51 \\ \underline{+\ 78} \end{array}$

e) $\begin{array}{r} 82 \\ \underline{+\ 34} \end{array}$ f) $\begin{array}{r} 60 \\ \underline{+\ 57} \end{array}$ g) $\begin{array}{r} 47 \\ \underline{+\ 81} \end{array}$ h) $\begin{array}{r} 56 \\ \underline{+\ 82} \end{array}$

i) $\begin{array}{r} 78 \\ \underline{+\ 41} \end{array}$ j) $\begin{array}{r} 84 \\ \underline{+\ 92} \end{array}$ k) $\begin{array}{r} 76 \\ \underline{+\ 83} \end{array}$ l) $\begin{array}{r} 86 \\ \underline{+\ 51} \end{array}$

m) $\begin{array}{r} 28 \\ \underline{+\ 76} \end{array}$ n) $\begin{array}{r} 39 \\ \underline{+\ 92} \end{array}$ o) $\begin{array}{r} 87 \\ \underline{+\ 73} \end{array}$ p) $\begin{array}{r} 99 \\ \underline{+\ 51} \end{array}$

q) $\begin{array}{r} 79 \\ \underline{+\ 23} \end{array}$ r) $\begin{array}{r} 56 \\ \underline{+\ 60} \end{array}$ s) $\begin{array}{r} 27 \\ \underline{+\ 36} \end{array}$ t) $\begin{array}{r} 47 \\ \underline{+\ 57} \end{array}$

u) 65 + 43

v) 31 + 49

w) 56 + 28

x) 39 + 66

Answers to Exercise Two

a) 125	b) 157	c) 129	d) 129	e) 116	f) 117	g) 128
h) 138	i) 119	j) 176	k) 159	l) 137	m) 104	n) 131
o) 160	p) 150	q) 102	r) 116	s) 63	t) 104	u) 108
v) 80	w) 84	x) 105				

Exercise Three

Find the sums. Check your work using the answer key at the end of the exercise.

a) 28 + 64

b) 34 + 39

c) 48 + 18

d) 92 + 71

e) 57 + 86

f) 32 + 79

g) 67 + 84

h) 36 + 96

i) 56 + 47

j) 64 + 42

k) 56 + 29

l) 25 + 75

m) 76 + 71

n) 48 + 56

o) 59 + 39

p) 83 + 76

q) $\begin{array}{r} 65 \\ \underline{+\ 27} \end{array}$ r) $\begin{array}{r} 54 \\ \underline{+\ 94} \end{array}$ s) $\begin{array}{r} 88 \\ \underline{+\ 35} \end{array}$ t) $\begin{array}{r} 91 \\ \underline{+\ 26} \end{array}$

u) $\begin{array}{r} 96 \\ \underline{+\ 55} \end{array}$ v) $\begin{array}{r} 42 \\ \underline{+\ 78} \end{array}$ w) $\begin{array}{r} 96 \\ \underline{+\ 43} \end{array}$ x) $\begin{array}{r} 79 \\ \underline{+\ 38} \end{array}$

Answers to Exercise Three

a) 92	b) 73	c) 66	d) 163	e) 143	f) 111	g) 151
h) 132	i) 103	j) 106	k) 85	l) 100	m) 147	n) 104
o) 98	p) 159	q) 92	r) 148	s) 123	t) 117	u) 151
v) 120	w) 139	x) 117				

Need some extra practice? Who's the Pig? A Game of Chance.

- This game is played by two people with one set of dice. Ask your instructor for one set of dice.
- The first player to reach 100 or more points is the winner.
- Players take turns rolling the dice.
- You add the amounts on the dice to find your score.
- When it is your turn, you may roll as many times in a row as you like. Therefore, it is possible to score 100 or more points in one turn.
- However, during your turn if you roll a **1 on either die**, you lose all your points for that turn, and your turn is over.
- If you roll a **1 on both dice**, you lose all the points you have, and you have to start all over again at zero, and your turn is over.

Example C:

$$\begin{array}{r} 45 \\ 37 \\ \underline{+\ 69} \\ \end{array} \qquad \begin{array}{r} {}^{2}45 \\ 37 \\ \underline{+\ 69} \\ 1 \end{array} \qquad \begin{array}{r} {}^{2}45 \\ 37 \\ \underline{+\ 69} \\ 151 \end{array}$$

Step 1: Add the ones. 5 ones + 7 ones + 9 ones = 21 ones

Rename 21 ones as 2 tens and 1 one.

Write the one in the sum under the ones column and **carry** the 2 tens to the tens column.

Step 2: Add the tens. 2 tens + 4 tens + 3 tens + 6 tens = 15 tens
15 tens is 1 hundred and 5 tens.

The one hundred can just be written in the sum because there are no other hundreds to add it to.

Exercise Four

Add these numbers. Check your work using the answer key at the end of the exercise.

a) 23
14
+ 31

b) 68
54
+ 27

c) 32
18
+ 29

d) 8
13
+ 93

e) 36
29
+ 16

f) 6
18
+ 7

g) 28
16
+ 9

h) 19
85
+ 37

i) 52
41
+ 30

j) 26
30
+ 92

k) 33
44
+ 57

l) 38
46
+ 69

m) 49
65
+ 77

n) 27
34
+ 46

o) 57
28
+ 36

p) 42
54
+ 78

q) 79
34
+ 29

r) 68
78
+ 88

s) 25
36
+ 42

t) 53
26
+ 13

u)	22	v)	75	w)	32	x)	27
	14		16		44		35
	+ 91		+ 58		+ 28		+ 42

Answers to Exercise Four

a) 68	b) 149	c) 79	d) 114	e) 81	f) 31	g) 53
h) 141	i) 123	j) 148	k) 134	l) 153	m) 191	n) 107
o) 121	p) 174	q) 142	r) 234	s) 103	t) 92	u) 127
v) 149	w) 104	x) 104				

Exercise Five

Add these numbers. Check your work using the answer key at the end of the exercise.

a)	25	b)	46	c)	45	d)	52
	16		23		62		23
	+ 23		+ 15		+ 71		+ 71
e)	35	f)	45	g)	82	h)	18
	12		18		32		45
	+ 86		+ 32		+ 41		+ 23
i)	13	j)	53	k)	44	l)	35
	23		31		82		71
	+ 36		+ 92		+ 41		+ 60

m)	56	n)	41	o)	18	p)	26
	27		22		25		74
	+ 48		+ 33		+ 44		+ 93
q)	71	r)	37	s)	24	t)	53
	80		28		87		42
	+ 76		+ 56		+ 25		+ 61
u)	34	v)	17	w)	52	x)	47
	87		30		24		25
	+ 28		+ 85		+ 58		+ 64

Answers to Exercise Five

a) 64	b) 84	c) 178	d) 146	e) 133	f) 95	g) 155
h) 86	i) 72	j) 176	k) 167	l) 166	m) 131	n) 96
o) 87	p) 193	q) 227	r) 121	s) 136	t) 156	u) 149
v) 132	w) 134	x) 136				

Exercise Six

Find the sums. Check your work using the answer key at the end of the exercise.

a)	67	b)	42	c)	31	d)	23
	78		13		12		27
	+ 55		+ 25		+ 49		+ 84

e)	41 52 + 65	f)	63 74 + 21	g)	47 18 + 55	h)	12 24 + 89
i)	73 21 + 37	j)	25 60 + 47	k)	53 60 + 71	l)	14 24 + 51
m)	56 23 + 67	n)	78 45 + 89	o)	22 52 + 64	p)	35 11 + 75
q)	34 32 + 85	r)	27 51 + 96	s)	25 46 + 43	t)	36 47 + 52
u)	53 67 + 81	v)	41 59 + 99	w)	31 83 + 27	x)	76 62 + 25

Answers to Exercise Six

a) 200	b) 80	c) 92	d) 134	e) 158	f) 158	g) 120
h) 125	i) 131	j) 132	k) 184	l) 89	m) 146	n) 212
o) 138	p) 121	q) 151	r) 174	s) 114	t) 135	u) 201
v) 199	w) 141	x) 163				

Use the same method for "carrying" when you add the columns of tens, hundreds, thousands, ten thousands, and so on. Look at these examples:

Example A:

$$\begin{array}{r} 374 \\ \underline{+\ 438} \end{array} \qquad \begin{array}{r} {\scriptstyle 1\ 1\ \ } \\ 374 \\ \underline{+\ 438} \\ 812 \end{array}$$

Step 1:Add the ones.

4 ones + 8 ones = **12 ones** = 1 ten and 2 ones

Write the **2** ones in the sum. Carry the 1 ten to the tens column.

Step 2: Add the tens.

7 + 3 + 1 ten you carried = **11 tens** = 1 hundred and 1 ten

Write the **1** ten. Carry the 1 hundred to the hundreds column.

Step 3:Add the hundreds.

3 + 4 + 1 hundred you carried = **8 hundreds**. Write **8**.

Example B:

$$\begin{array}{r} 4\ 974 \\ 2\ 385 \\ \underline{+\ 6\ 890} \end{array} \qquad \begin{array}{r} {\scriptstyle 1\ 2\ 2\ \ } \\ 4\ 974 \\ 2\ 385 \\ \underline{+\ 6\ 890} \\ 14\ 249 \end{array}$$

Step 1:Add the ones. **9 ones** (write **9 ones** in the sum)

Step 2:Add the tens. **24 tens** = 2 hundreds + 4 tens (write **4** tens)

Carry the 2 hundreds to the hundreds column.

Step 3:Add the hundreds and the 2 hundreds you carried.

22 hundreds = 2 thousands + 2 hundreds (write **2** hundreds)

Step 4:Add the thousands and the 2 thousands you carried.

14 thousands = 1 ten thousand + 4 thousands

Write **14** thousands in the sum.

Example C:

$$\begin{array}{r} 246\,476 \\ +\ 873\,706 \\ \hline \end{array} \qquad \begin{array}{r} {\scriptstyle 1\,1\,1\quad 1} \\ 246\,476 \\ +\ 873\,706 \\ \hline 1\,12\mathbf{0}\,182 \end{array}$$

Step 1: Add the ones. **12 ones** = 1 ten + 2 ones
Write **2** ones in the sum, carry the 1 ten over.

Step 2: Add the tens. **8 tens**
Write **8** tens in the sum, nothing to carry.

Step 3: Add the hundreds. **11 hundreds** = 1 thousand + 1 hundred
Write **1** hundred in the sum, carry the 1 thousand.

Step 4: Add the thousands. **10 thousands** = 1 ten thousand + 0 thousands
Be sure to write the **0** to hold the thousands place in the sum.
Carry the 1 ten thousand.

Step 5: Add the ten thousands.
12 ten thousands = 1 hundred thousand + 2 ten thousands
Write the **2** ten thousands in the sum, carry the 1 hundred thousand.

Step 6: Add the hundred thousands.
11 hundred thousands = 1 million + 1 hundred thousand
Write **1** million and the **1** hundred thousand in the sum.

And to read the answer, say,
"one million, one hundred twenty thousand, one hundred eight-two".

Exercise Seven

Find the sums. Check your work using the answer key at the end of the exercise.

a) 231
+ 452

b) 520
+ 239

c) 481
+ 306

d) 306
+ 83

e) 5 237
+ 2 549

f) 2 846
+ 1 437

g) 5 128
+ 4 907

h) 6 005
+ 239

i) 8 106
+ 3 923

j) 5 028
+ 4 907

k) 6 005
+ 273

l) 2 648
+ 1 838

m) 5 837
+ 2 569

n) 2 846
+ 1 457

o) 3 517
+ 4 296

p) 9 020
+ 684

q) 2 648
+ 1 238

r) 5 237
+ 6 968

s) 2 346
+ 9 879

t) 5 028
+ 4 986

u) 6 005
+ 3 997

v) 2 648
+ 8 797

w) 26 072
+ 47 958

x) 2 648
+ 1 638

y) 368
294
+ 489

z) 436
398
+ 177

aa) 728
365
+ 428

bb) 2 238
4 595
+ 5 479

cc) 33 626
62 598
+ 1 188

dd) 42 163
30 820
+ 21 911

Answers to Exercise Seven

a) 683	b) 759	c) 787	d) 389	e) 7 786	f) 4 283
g) 10 035	h) 6 244	i) 12 029	j) 9 935	k) 6 278	l) 4 486
m) 8 406	n) 4 303	o) 7 813	p) 9 704	q) 3 886	r) 12 205
s) 12 225	t) 10 014	u) 10 002	v) 11 445	w) 74 030	x) 4 286
y) 1 151	z) 1 011	aa) 1 521	bb) 12 312	cc) 97 412	dd) 94 894

If you are having any problems with this work, ask your instructor to check your method of addition with carrying before you go any further.

If you feel that you need more practice, your instructor will give you more addition questions to do.

Adding Across

If an addition question is written with the numbers side by side, rewrite the question in columns. Put the ones under the ones, the tens under the tens, the hundreds under the hundreds, and so on.

Example A: 263 + 25 = _____

$$\begin{array}{r} 263 \\ \underline{+\ 25} \\ 288 \end{array}$$

Example B: 316 + 9 560 = _____

$$\begin{array}{r} 316 \\ \underline{+\ 9\ 560} \\ 9\ 876 \end{array}$$

Exercise Eight

Rewrite each question in columns. Be careful to write ones under ones, tens under tens, hundreds under hundreds, and so on. Check your work using the answer key at the end of the exercise.

a) 476 + 392 + 483 = _____

b) 986 + 483 + 524 = _____

c) 3 714 + 3 189 + 4 582 = _____

d) 466 + 5 973 + 821 + 83 = _____

e) 697 + 7 639 + 27 + 5 396 = _____

f) 1 436 + 844 + 16 009 = _____

g) 242 100 + 62 418 + 32 + 528 002 = _____

h) 279 661 + 475 + 49 264 = _____

Answers to Exercise Eight

a) 1 351	b) 1 993	c) 11 485	d) 7 343
e) 13 759	f) 18 289	g) 832 552	h) 329 400

Topic B: Self-Test

Mark /15 **Aim 12/15**

A. Find the sums. Be sure to check your answers. **12 marks**

a) 85
+ 57

b) 94
+ 48

c) 982
+ 743

d) 829
+ 303

e) 7 834
+ 2 169

f) 5 976
+ 2 081

g) 46 940
+ 86 502

h) 41 801
+ 39 199

i) 3 742
4 108
+ 7 336

j) 12 350
17 629
+ 23 244

k) 352 641
432 345
+ 720 250

l) 18 060
62 549
1 375
+ 399

B. Add these numbers. **3 marks**

a) 74 + 32 + 67 + 85 =

b) 721 + 8 462 + 968 + 99 =

c) 389 + 2 517 + 2 =

Answers to Topic B Self-Test

A.

a) 142	b) 142	c) 1 725	d) 1 132	e) 10 003
f) 8057	g) 133 442	h) 81 000	i) 15 186	j) 53 223
k) 1 505 236	l) 82 383			

B.

a) 258	b) 10 250	c) 2 908

Topic C: Estimating Answers in Addition

You have learned how to round numbers. Now you can use that skill to quickly find an **approximate** sum.

Often an estimate is all you need. If you are going away for the weekend, you have to think about how much money you will need.

The hotel is about $60, meals about $80, gas about $40, and entertainment about $100.
You will take $60 + $80 + $40 + $100 = $280

When you are solving word problems or working with a calculator, **you should estimate your answer first so you can tell if your answer is sensible.**

In these examples, **estimate** the answer. Round each number **BEFORE** you add.

Example A:	53	rounds to	50
	69	rounds to	70
	22	rounds to	20
	+ 88	rounds to	+ 90
			230

Example B:	349	rounds to	300
	+ 682	rounds to	+ 700
			1 000

Example C:	43 928	rounds to	40 000
	29 785	rounds to	30 000
	88 319	rounds to	90 000
	+ 243 928	rounds to	+ 240 000
			400 000

If you are estimating an answer, usually you **estimate to the largest place value that you can.** Your estimate will give you what is sometimes called a **ballpark** figure. You will have an **approximate answer.**

Exercise One

Estimate the sums. Check your work using the answer key at the end of the exercise.

a)

973	≈	*1 000*
496	≈	*500*
+ 382	≈	*+ 400*
		1 900

b)

519
439
+ 382

c)

1 234
4 567
+ 7 890

d)

3 519
4 003
+ 3 832

e)

2 727
2 329
+ 9 818

f)

4 113
1 590
+ 2 671

g)

38 985
43 691
+ 8 336

h)

42 163
30 820
21 911
+ 60 422

i)

$$\begin{array}{r} 21\,472 \\ 46\,371 \\ 98\,393 \\ \underline{+\ 82\,218} \end{array}$$

j)

$$\begin{array}{r} 30\,706 \\ 29\,115 \\ 40\,082 \\ \underline{+\ 31\,621} \end{array}$$

k)

$$\begin{array}{r} 431\,391 \\ 554\,423 \\ 913\,174 \\ \underline{+\ 282\,826} \end{array}$$

l)

$$\begin{array}{r} 171\,234 \\ 102\,085 \\ 460\,892 \\ \underline{+\ 542\,329} \end{array}$$

m)

$$\begin{array}{r} 726\,712 \\ 463\,314 \\ 543\,273 \\ \underline{+\ 429\,179} \end{array}$$

n)

$$\begin{array}{r} 52\,163 \\ 4\,218 \\ 316 \\ \underline{+\ 62\,190} \end{array}$$

o)

$$\begin{array}{r} 4\,216 \\ 53\,008 \\ 31\,621 \\ \underline{+\ 2\,165} \end{array}$$

p)

$$\begin{array}{r} 321 \\ 2\,143 \\ 52\,140 \\ \underline{+\ 1\,230} \end{array}$$

q)
$$\begin{array}{r} 4\,766\,883 \\ 1\,549\,008 \\ 6\,391\,458 \\ \underline{+\ 2\,190\,753} \end{array}$$

r)
$$\begin{array}{r} 2\,185\,283 \\ 8\,018\,350 \\ 3\,705\,060 \\ \underline{+\ 2\,896\,375} \end{array}$$

Answers to Exercise One

a) 1 000 + 500 + 400 = 1 900
b) 500 + 400 + 400 = 1 300
c) 1 000 + 5 000 + 8 000 = 14 000
d) 4 000 + 4 000 + 4 000 = 12 000
e) 3 000 + 2 000 + 10 000 = 15 000
f) 4 000 + 2 000 + 3 000 = 9 000
g) 39 000 + 44 000 + 8 000 = 91 000
h) 40 000 + 30 000 + 20 000 + 60 000 = 150 000
i) 20 000 + 50 000 + 100 000 + 80 000 = 250 000
j) 30 000 + 30 000 + 40 000 + 30 000 = 130 000
k) 400 000 + 600 000 + 900 000 + 300 000 = 2 200 000
l) 200 000 + 100 000 + 500 000 + 500 000 = 1 3000 000
m) 700 000 + 500 000 + 500 000 + 400 000 = 2 100 000
n) 52 200 + 4 300 + 300 + 62 200 = 118 900
o) 4 000 + 53 000 + 32 000 + 2 000 = 91 000
p) 300 + 2 100 + 52 100 + 1 200 = 55 700
q) 5 000 000 + 2 000 000 + 6 000 000 + 2 000 000 = 15 000 000
r) 2 000 000 + 8 000 000 + 4 000 000 + 3 000 000 = 17 000 000

Estimating Answers in Addition Word Problems

When you are solving word problems, **an estimate tells you if your answer is sensible.** You can use your estimate to help you check your answers. If your answer and the estimate are not close, then you know that you should add your numbers again.

Exercise Two

Estimate the following answers. Be sure to round to the largest place value possible before adding. Remember to circle the information and underline what is being asked. Check your work using the answer key at the end of the exercise.

Example: During one month, Chaska spends 11 432 minutes sleeping and 5 812 minutes eating. Estimate how much time he spends sleeping and eating.

During one month, Chaska spends 11 432 minutes sleeping and 5 812 minutes eating. Estimate how much time he spends sleeping and eating?

11 432	**Estimate**:	11 000
+ 5 812		+ 6 000
		17 000

Chaska spent about 17 000 minutes sleeping and eating.

a) During October, Amul drove 674 kilometres, 493 kilometres, 384 kilometres and 914 kilometres. Estimate the total kilometres Amul drove.

b) The number of passengers using the ABE Taxi Company for the past three weeks were 3 205 passengers, 3 542 passengers and 2 821 passengers. Estimate the number of passengers that used the ABE Taxi Company.

c) In 2008, the top three winning teams in the NHL were the Montreal Canadiens winning 2 980 games, the Boston Bruins winning 2 669 games and the Toronto Maple Leafs winning 2 535 games. Estimate the total number of games won by these three teams.

d) The three deepest lakes in the world are Baikal Lake which is 1 741 metres, Tanganyika Lake which is 1 471 metres and the Caspian Sea which 1 025 metres. Estimate the total depth of the three lakes.

e) The Wang family drove 13 527 kilometres. The Li family drove 15 439 kilometres. The Zhang family drove 17 024 kilometres. Estimate the total kilometres driven by the three families.

f) Indonesia has 884 950 square kilometres of forest. Peru has 687 420 square kilometres of forest. India has 677 010 square kilometres of forest. Estimate the total square kilometres of forest for these three countries.

g) Four astronauts have logged the following times in actual space travel: 4 216 minutes, 13 628 minutes, 3 153 minutes and 22 117 minutes. Estimate the total number of minutes logged by these four astronauts.

h) In 1910, the population of London, England was 6 580 616. The population of Paris, France was 2 763 393. The population of Tokyo, Japan was 2 186 079. Estimate the total population of the three countries.

Answers to Exercise Two

a) 700 + 500 + 400 + 900 = 2 500 kilometres

b) 3 000 + 4 000 + 3 000 = 10 000 passengers

c) 3 000 + 3 000 + 3 000 = 9 000 games

d) 2 000 + 1 000 + 1 000 = 4 000 metres

e) 10 000 + 20 000 + 20 000 = 50 000 kilometres

f) 900 000 + 700 000 + 700 000 = 2 300 000 square kilometres

g) 4 000 + 14 000 + 3 000 + 22 000 = 43 000 minutes

h) 7 000 000 + 3 000 000 + 2 000 000 = 12 000 000 people

Topic C: Self-Test

Mark /15 **Aim 11/15**

A. Estimate the sums. Show your work. **9 marks**

a)
$$\begin{array}{r} 7\,964 \\ 971 \\ 6\,888 \\ +\ 2\,021 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 5\,365 \\ 5\,100 \\ 9\,982 \\ +\ 7\,752 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 5\,211 \\ 1\,982 \\ 3\,371 \\ +\ 2\,801 \\ \hline \end{array}$$

d)
$$\begin{array}{r} 2\,395 \\ 2\,709 \\ 18\,060 \\ +\ 932\,335 \\ \hline \end{array}$$

e)
$$\begin{array}{r} 2\,364 \\ 62\,182 \\ 549\,272 \\ +\ 6\,395 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 75\,536 \\ 31\,807 \\ 337\,427 \\ +\ 7\,912 \\ \hline \end{array}$$

g)
$$\begin{array}{r} 898\,402 \\ 465\,766 \\ 558\,485 \\ +\ 324\,715 \\ \hline \end{array}$$

h)
$$\begin{array}{r} 6\,182\,390 \\ 2\,763\,393 \\ 1\,326\,879 \\ +\ 2\,743\,912 \\ \hline \end{array}$$

i)

$$\begin{array}{r} 1\ 226\ 590 \\ 687\ 029 \\ 533\ 905 \\ \underline{+\ 1\ 359\ 254} \end{array}$$

B. Estimate each of the following word problems. 6 marks

Be sure to include the unit of measure in your answer.(2 marks each)

Be sure to circle information and <u>underline</u> what is being asked.

a) Yuan counted 854 old books and 519 new books. Estimate how many books there were altogether.

b) A magazine has 34 783 subscribers. Last year the magazine had 26 876 subscribers. Estimate how many subscribers in total.

c) The area of Canada is 9 984 670 square kilometres. The area of the United States is 9 629 091 square kilometres. The area of Mexico is 1 964 375 square kilometres. Estimate the total area of the three countries.

Answers to Topic C Self-Test

A.

a) 18 000	b) 28 000	c) 13 000	d) 955 000	e) 619 000
f) 453 000	g) 2 300 000	h) 13 000 000	i) 3 800 000	

B.

a) 1 400 books b) 60 000 subscribers c) 22 000 000 square kilometres

Unit 2 Review - Addition

You will now practice all the skills you learned in Unit 2. Check your work using the answer key at the end of the review

A. Find the sums.

a) 23 + 35

b) 47 + 52

c) 62 + 36

d) 51 + 24

e) 64 + 14

f) 53 + 32

B. Find the sums.

a) 23 34 + 42

b) 42 35 + 70

c) 41 58 + 20

d) 51 43 + 70

e) 22 46 + 31

f) 63 24 + 81

C. Find the sums.

a) 518 + 470

b) 410 + 316

c) 820 + 149

d) 631
+ 235

e) 240
+ 523

f) 723
+ 126

D. Find the sums.

a) 453
216
+ 320

b) 231
425
+ 313

c) 212
345
+ 831

d) 726
130
+ 443

e) 542
315
+ 641

f) 314
245
+ 630

E. Find the sums.

a) 3 168
+ 3 220

b) 3 782
+ 4 217

c) 7 521
+ 3 167

d) 52 163
+ 72 835

e) 54 373
+ 54 625

f) 83 245
+ 13 450

F. Find the sums.

a) 45 + 104 =

b) 523 + 364 =

c) 5 231 + 346 =

d) 4 661 + 2 138 =

e) 42 + 707 + 350 =

f) 63 613 + 45 165 =

g) 22 514 + 43 262 + 21 102 =

h) 72 510 + 4 127 + 13 041 =

G. Find the sums.

a)
$$\begin{array}{r} 96 \\ \underline{+\ 58} \end{array}$$

b)
$$\begin{array}{r} 87 \\ \underline{+\ 57} \end{array}$$

c)
$$\begin{array}{r} 35 \\ \underline{+\ 89} \end{array}$$

d)
$$\begin{array}{r} 48 \\ \underline{+\ 63} \end{array}$$

e)
$$\begin{array}{r} 54 \\ \underline{+\ 98} \end{array}$$

f)
$$\begin{array}{r} 37 \\ \underline{+\ 65} \end{array}$$

H. Find the sums.

a)
$$\begin{array}{r} 27 \\ 18 \\ \underline{+\ 35} \end{array}$$

b)
$$\begin{array}{r} 52 \\ 16 \\ \underline{+\ 79} \end{array}$$

c)
$$\begin{array}{r} 58 \\ 37 \\ \underline{+\ 29} \end{array}$$

d) 42
59
+ 26

e) 36
84
+ 57

f) 21
54
+ 36

I. Find the sums.

a) 527
+ 319

b) 382
+ 476

c) 3 782
+ 4 561

d) 6 789
+ 4 567

e) 83 245
+ 13 876

f) 52 368
+ 29 240

g) 683
194
+ 276

h) 483
629
+ 753

i) 4 216
3 807
+ 4 498

j) 11 615
12 573
+ 76 125

k) 321 456
523 214
+ 212 304

l) 12 421
6 815
+ 42 916

J. Find the sums.

a) 234 + 357 + 526 =

b) 435 + 16 + 127 =

c) 4 118 + 2671 + 1590 =

d) 67 543 + 17 069 =

e) 4 235 + 6 815 + 42 916 =

f) 231 262 + 64 221 + 7 143 =

K. Estimate the sums.

a)
$$\begin{array}{r} 217 \\ 316 \\ \underline{+\ 142} \end{array}$$

b)
$$\begin{array}{r} 3\ 317 \\ 2\ 154 \\ \underline{+\ 1\ 212} \end{array}$$

c)
$$\begin{array}{r} 21\ 016 \\ 14\ 527 \\ \underline{+\ 51\ 202} \end{array}$$

d)
$$\begin{array}{r} 31\ 945 \\ 12\ 214 \\ \underline{+\ 3\ 142} \end{array}$$

e)
$$\begin{array}{r} 41\ 730 \\ 2\ 151 \\ 33\ 225 \\ \underline{+\ 14\ 659} \end{array}$$

f)
$$\begin{array}{r} 2\ 173\ 317 \\ 3\ 621\ 154 \\ \underline{+\ 1\ 421\ 212} \end{array}$$

L. Estimate the following answers. Be sure to round to the largest place value possible before adding. Remember to circle the information and <u>underline</u> what is being asked.

a) The Plumbers' Union has 456 members. The Carpenters' Union has 875 members. The Electricians' Union has 1 394 members. Estimate how many members these three unions have.

b) Last year Seung shipped 42 169 orders from his warehouse. So far this year, Seung has shipped 5 837 orders. Estimate the total number of orders sent.

c) Avani has driven 42 576 kilometres, 38 342 kilometres and 14 208 kilometres in the last three years. Estimate how many kilometres Avani has driven in the last three years.

Answers to Unit 2 Review

A.

a)	58	b)	99	c)	98	d)	75	e)	78	f)	85

B.

a)	99	b)	147	c)	119	d)	164	e)	99	f)	168

C.

a)	988	b)	726	c)	969	d)	866	e)	763	f)	849

D.

a)	989	b)	969	c)	1 388	d)	1 299	e)	1 498	f)	1 189

E.

a)	6 388	b)	7 999	c)	10 688	d)	124 998	e)	108 998
f)	96 695								

F.

a)	149	b)	887	c)	5 577	d)	6 799	e)	1 099
f)	108 778	g)	86 878	h)	89 678				

G.

a)	154	b)	144	c)	124	d)	111	e)	152	f)	102

H.

a)	80	b)	147	c)	124	d)	127	e)	177	f)	111

I.

a)	846	b)	858	c)	8 343	d)	11 356	e)	97 121
f)	81 608	g)	1 153	h)	1 865	i)	12 521	j)	100 313
k)	1 056 974	l)	62 152						

J.

a)	1 117	b)	578	c)	8 379	d)	84 612	e)	53 966	f)	302 626

K.

a) 200 + 300 + 100 = 600 b) 3 000 + 2 000 + 1 000 = 6000

c) 20 000 + 10 000 + 50 000 = 80 000 d) 32 000 + 12 000 + 3 000 = 47 000

e) 42 000 + 2 000 + 33 000 + 15 000 = 92 000

f) 2 000 000 + 4 000 000 + 1 000 000 = 7 000 000

L.

a) 500 + 900 + 1 400 = 2 800 members b) 42 000 + 6 000 = 48 000 orders

c) 40 000 + 40 000 + 10 000 = 90 000 kilometres

CONGRATULATIONS!!

Now you have finished Unit 2.

TEST TIME!

Ask your instructor for the Practice Test for this unit.
Once you've done the practice test,
you need to do the unit 2 test.
Again, ask your instructor for this.
Good luck!