Math Practice Sheets

Addition and Subtraction Part I

Examples

Practice Questions

Extra Challenge Unit

Student Name

_____

Unit 2.1	Mental Addition and Subtraction

Example

Add using mental math.
Find 242 + 39.

```
        ?
 ┌─────────────┐
 242    │    39
```
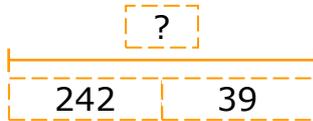
One way is to break apart a number to find a ten. i.e. adding 8 to 242 is easy.   Break apart 39.

```
        281
 ┌─────────────┐
 242 │  8  │ 31
```
242+8 = 250
250+31= 281

∴ 242 + 39 = 281

Another way is to use compensation.
      242 + 39
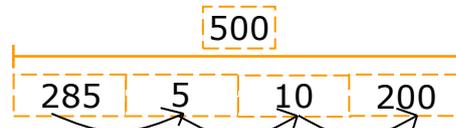   242 + 40 = 282
We added 1 too many. So, subtract 1. i.e. 282 - 1 = 281

∴ 242 + 39 = 281

Subtract using mental math.
Find 500 - 285.
One way is to count on.

```
            500
 ┌───────────────────────┐
 285 │  5  │  10  │  200
```
285 + 5 = 290
290 + 10 = 300
300 + 200 = 500
i.e. 5 + 10 + 200 = 215

∴ 500 - 285 = 215

Another way is to use compensation.
It is easy to subtract 300.
∴ 500 - 300 = 200
We subtracted 15 too many. So, add 15.
200 + 15 = 215

∴ 500 - 285 = 215
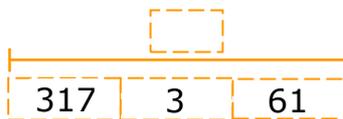
Note: 2 + 3 = 3 + 2 is commutative property, (4 + 5) + 6 = 4 + (5 + 6) is associative property, and 9 + 0 = 9 is identity property of addition.
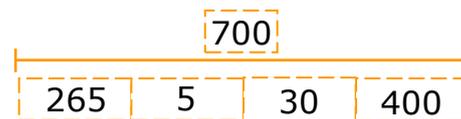
Exercise

1.   Add or subtract using mental math.

a) 317 + 64

```
        ┌────┐
 ┌─────────────┐
 317 │  3  │ 61
```

b) 700 - 265

```
            700
 ┌───────────────────────┐
 265 │  5  │  30  │  400
```

c) 4,000 + 1,620

```
        ┌────┐
 ┌─────────────────────┐
 4,000│1,000│ 600 │ 20
```

d) 900 - 635

```
            900
 ┌───────────────────────┐
 635 │  5  │  60  │  200
```

Mental Addition and Subtraction
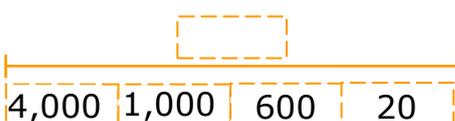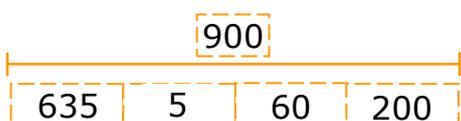
Exercise

2. Find the sum or the difference using mental math.

a) 839 + 0	b) (326 + 10) + 5
c) 400 - 135	d) 1,200 - 765
e) 3,000 + 2,945	f) 1,680 + 8,000
g) 674 - 265	h) 507 - 298

<table>
<tr><td>Unit 2.1</td><td>Mental Addition and Subtraction</td></tr>
</table>

Exercise

Solve the problems below.

Use the table to answer the questions 3 and 4.

Day of concert	Friday	Saturday	Sunday	Monday
Number of tickets sold	32,105	23,640	45,780	34,805

3. Which two days shown in the table have the smallest difference in ticket selling?

4. The most tickets were sold on which day?

    a) Friday   b) Saturday

    c) Sunday   d) Monday

5. Is 934 - 471 more or less than 500? How you can tell using mental math? Explain.

6. How can you use mental math to add 3,000 + 1,685?

Estimating Sums and Differences

Example

Estimate by rounding to the nearest ten.

$$
\begin{array}{r}
8\ 6\ 5 \\
+\ 4\ 1\ 2 \\
\end{array}
\longrightarrow
\begin{array}{r}
8\ 7\ 0 \\
+\ 4\ 1\ 0 \\
\hline
1{,}2\ 8\ 0 \\
\end{array}
$$

$$
\begin{array}{r}
6\ 9\ 3 \\
-\ \ \ 7\ 8 \\
\end{array}
\longrightarrow
\begin{array}{r}
6\ 9\ 0 \\
-\ \ \ 8\ 0 \\
\hline
6\ 1\ 0 \\
\end{array}
$$

Estimate by rounding to nearest hundred.

$$
\begin{array}{r}
5{,}7\ 3\ 4 \\
+\ 5\ 6\ 8 \\
\end{array}
\longrightarrow
\begin{array}{r}
5{,}7\ 0\ 0 \\
+\ 6\ 0\ 0 \\
\hline
6{,}3\ 0\ 0 \\
\end{array}
$$

$$
\begin{array}{r}
9{,}7\ 5\ 8 \\
-\ 2{,}3\ 4\ 5 \\
\end{array}
\longrightarrow
\begin{array}{r}
9{,}8\ 0\ 0 \\
-\ 2{,}3\ 0\ 0 \\
\hline
7{,}5\ 0\ 0 \\
\end{array}
$$

Round each number according to the instructions or to the highest place value the numbers have in common. Then add or subtract from right to left.

Exercise

1. Estimate the following by rounding to the nearest ten.

a)
$$
\begin{array}{r}
9\ 2\ 4 \\
+\ 5\ 2\ 8 \\
\hline
\end{array}
\longrightarrow
$$

b)
$$
\begin{array}{r}
7\ 3\ 8 \\
-\ 2\ 7\ 1 \\
\hline
\end{array}
$$

c)
$$
\begin{array}{r}
6{,}4\ 9\ 3 \\
+\ 3\ 4\ 5 \\
\hline
\end{array}
$$

d)
$$
\begin{array}{r}
4{,}3\ 8\ 1 \\
-\ \ \ 1\ 4\ 2 \\
\hline
\end{array}
$$

e)
$$
\begin{array}{r}
3{,}8\ 2\ 9 \\
-\ 1{,}6\ 5\ 1 \\
\hline
\end{array}
$$

f)
$$
\begin{array}{r}
5{,}4\ 3\ 4 \\
-\ 2{,}8\ 1\ 6 \\
\hline
\end{array}
$$

Estimating Sums and Differences

Exercise

2. Estimate the following by rounding to the nearest hundred.

a)
$$
\begin{array}{r}
3\ 6\ 5 \longrightarrow \\
+\ 7\ 1\ 2 \longrightarrow \\
\hline
\end{array}
$$

b)
$$
\begin{array}{r}
6\ 2\ 9 \\
-\ 2\ 4\ 8 \\
\hline
\end{array}
$$

c)
$$
\begin{array}{r}
8{,}4\ 5\ 2 \\
+\ 7{,}3\ 2\ 9 \\
\hline
\end{array}
$$

d)
$$
\begin{array}{r}
6{,}7\ 9\ 2 \\
-\ 4{,}4\ 4\ 4 \\
\hline
\end{array}
$$

3. Estimate each of the following sum or difference.

a)
$$
\begin{array}{r}
4{,}5\ 9\ 1 \\
+\ \ 4\ 2\ 9 \\
\hline
\end{array}
$$

b)
$$
\begin{array}{r}
7{,}2\ 3\ 6 \\
-\ \ 1\ 6\ 3 \\
\hline
\end{array}
$$

c)
$$
\begin{array}{r}
8{,}7\ 3\ 6 \\
+\ 9{,}5\ 1\ 7 \\
\hline
\end{array}
$$

d)
$$
\begin{array}{r}
7{,}5\ 9\ 5 \\
-\ 2{,}3\ 0\ 9 \\
\hline
\end{array}
$$

Exercise

Solve the problems below.

4. Out of 682 pens, 245 are damaged. About how many pens are not damaged? Estimate by rounding to the nearest ten.

5. Deion and Denise counted the nickels that they had been saving for two years. Deion had 875 and Denise had 629 nickels. About how many nickels did they have together? Circle the correct answer.

a)
$$\begin{array}{r} 8\ 0\ 0 \\ +\ 7\ 0\ 0 \\ \hline 1{,}5\ 0\ 0 \end{array}$$

b)
$$\begin{array}{r} 9\ 0\ 0 \\ +\ 6\ 0\ 0 \\ \hline 1{,}5\ 0\ 0 \end{array}$$

c)
$$\begin{array}{r} 9\ 0\ 0 \\ +\ 7\ 0\ 0 \\ \hline 1{,}6\ 0\ 0 \end{array}$$

d)
$$\begin{array}{r} 8\ 0\ 0 \\ +\ 6\ 0\ 0 \\ \hline 1{,}4\ 0\ 0 \end{array}$$

6. A bakery produces 5,308 plain bagels and 1,589 egg bagels daily. About how many bagels does the bakery produce each day? Estimate by rounding to the nearest hundred.

7. There are 9,615 books in a library. 576 books are science books and the rest are math books. About how many books are math books? Round each number to the highest place value the numbers have in common. Then estimate the difference.

Unit 2.3	Addition and Subtraction of Whole Numbers

Example

Add: 3,489, 892, and 2,056

$$\begin{array}{r} \boxed{1}\;\boxed{2}\;\boxed{1} \\ 3,4\;8\;9 \\ 8\;9\;2 \\ +\;\;\;2,0\;5\;6 \\ \hline 6,4\;3\;7 \end{array}$$

Add: 2,343 and 5,878

2,343 + 5,878 = 8,221

Add numbers in the ones, tens, hundreds, and thousands places from right to left respectively and regroup if necessary.

Subtract: 3,572 from 4,669

$$\begin{array}{r} \boxed{5}\;\boxed{16} \\ 4,\cancel{6}\;\cancel{6}\;9 \\ -\;\;3,5\;7\;2 \\ \hline 1,0\;9\;7 \end{array}$$

Subtract: 2,681 and 5,931

5,931 - 2,681 = 3,250

Subtract the numbers in the ones, tens, hundreds, and thousands positions from right to left respectively and regroup if necessary.

Exercise

1. Add the following.

a)
$$\begin{array}{r} 7\;6\;9 \\ +\;\;\;\;8\;5 \\ \hline \end{array}$$

b)
$$\begin{array}{r} 3,2\;5\;6 \\ 7,8\;5\;1 \\ +\;\;\;\;\;\;9\;3 \\ \hline \end{array}$$

c)
875 + 263 =

d)
2,592 + 361 + 48 =

e)
$$\begin{array}{r} 6,3\;1\;7 \\ 2\;0\;8 \\ +\;\;5,4\;3\;2 \\ \hline \end{array}$$

f)
$$\begin{array}{r} 8\;7 \\ 5\;6\;4 \\ +\;\;1,2\;3\;4 \\ \hline \end{array}$$

Exercise

2. Subtract the following.

a)
```
    9 6 8
 -  4 6 7
```

b)
```
    8,1 6 5
 -  2,0 1 9
```

c)

724 - 354 =

d)

6,835 - 472 =

3. Add or subtract.

a)
```
    5,6 0 8
      5 7 2
 +  1,9 4 5
```

b)
```
    9,2 4 3
 -  5,0 1 8
```

c)

5,832 - 415 =

d)

8,346 + 509 =

Exercise

Solve the problems below.

4. A shopkeeper has two baskets of apples. The first basket has 3,489 apples and the second basket has 4,892 apples. How many apples are there altogether?

5. Jilly has to travel 5,675 miles. She traveled 2,679 miles in ten days. How many miles does she have left to travel?

      a) 3,996 miles   b) 7,996 miles

      c) 2,996 miles   d) 2,969 miles

6. There are 2,348 pages in an English book, 957 pages in a Math book, and 65 pages in a Science book. Find the total pages.

7. Karla has $42,525. If she buys a motorcycle for $15,956, how much money does she have left?

Addition and Subtraction across Zeros

Example

Find sum of 500 and 289.

```
    5 0 0
  + 2 8 9
  ─────────
    7 8 9
```

Find sum of 675 and 805.

675 + 805 = 1,480

Add ones, tens, hundreds, and thousands from right to left respectively and regroup if necessary. Note that addition of zero with any number is same, i.e. 0 + 9 = 9.

Subtract 289 from 500.

```
  4 9 10
  5̶ 0̶ 0̶
  - 2 8 9
  ─────────
    2 1 1
```

Subtract 675 from 805.

805 - 675 = 130

Subtract ones, tens, hundreds, and thousands from right to left respectively and regroup if necessary.

Exercise

1. Find the sum.

a)
```
    4,0 5 0
  + 6,7 5 0
  ───────────
```

b)
```
    3,1 7 5
  + 2,9 0 5
  ───────────
```

c)

250 + 107 + 20 =

d)
```
        6 0
        3 0 5
  +   1,0 4 5
  ─────────────
```

Addition and Subtraction across Zeros

Exercise

2. Find the difference.

a)
```
    8 0 0
  - 3 4 6
  _____
```

b)
```
  5,0 0 2
  -   4 7 9
  _____
```

c)

4,000 - 1,067 =

d)
```
  9,0 6 0
  - 2,1 7 0
  _____
```

3. Find the sum or the difference.

a)
```
  2,9 0 1
    4 0 9
  + 6,0 0 0
  _____
```

b)
```
  3,5 0 0
  - 1,2 8 9
  _____
```

c)

7,000 - 5,005 =

d)

30 + 405 + 1,005 =

Exercise

Solve the problems below.

4. A car is worth $968,000 and a van is worth $745,000. Which is more expensive?

5. There are 40,602 men and 30,780 women in a city. Find the total population of the city.

        a) 61,382   b) 81,382

        c) 71,000   d) 71,382

6. There are 10,000 students in a school. If 6,475 students are girls, how many students are boys?

7. The areas of 3 continents on Earth are shown in the table at the right. Find the total area.

Continent	Area (sq. miles)
North America	9,450,000
South America	6,890,000
Europe	4,010,000

Unit 2.5	Addition and Subtraction Patterns over Increasing Place Values

Example

Add using patterns.

7 + _____ = 12

70 + _____ = 120

700 + _____ = 1,200

7,000 + _____ = 12,000

⬇

7 + 5 = 12

70 + 50 = 120

700 + 500 = 1,200

7,000 + 5,000 = 12,000

Subtract using patterns.

9 - 5 = _____

90 - 50 = _____

900 - 500 = _____

9,000 - 5,000 =

⬇

9 - 5 = 4

90 - 50 = 40

900 - 500 = 400

9,000 - 5,000 = 4,000

You can add or subtract patterns over increasing place values.

Exercise

1.   Add or subtract the following using patterns.

a)

6 + _____ = 15

60 + _____ = 150

600 + _____ = 1,500

6,000 + _____ = 15,000

b)

7 - 4 = _____

70 - 40 = _____

700 - 400 = _____

7,000 - 4,000 = _____

c)

8 - 6 = _____

80 - 60 = _____

800 - 600 = _____

8,000 - 6,000 = _____

d)

3 + _____ = 10

30 + _____ = 100

300 + _____ = 1,000

3,000 + _____ = 10,000

Exercise

e)

_____ + 9 = 12

_____ + 90 = 120

_____ + 900 = 1,200

_____ + 9,000 = 12,000

f)

_____ - 4 = 5

_____ - 40 = 50

_____ - 400 = 500

_____ - 4,000 = 5,000

g)

_____ - 2 = 4

_____ - 20 = 40

_____ - 200 = 400

_____ - 2,000 = 4,000

h)

_____ + 8 = 13

_____ + 80 = 130

_____ + 800 = 1,300

_____ + 8,000 = 13,000

i)

7 + _____ = 11

70 + _____ = 110

700 + _____ = 1,100

7,000 + _____ = 11,000

j)

3 - _____ = 2

30 - _____ = 20

300 - _____ = 200

3,000 - _____ = 2,000

k)

_____ - 5 = 3

_____ - 50 = 30

_____ - 500 = 300

_____ - 5,000 = 3,000

l)

_____ + 7 = 14

_____ + 70 = 140

_____ + 700 = 1,400

_____ + 7,000 = 14,000

Exercise

Solve the problems below.

2. 50 apples less than a certain number of apples is 20 apples. What is the missing number?

$$\underline{\hspace{1.5cm}} - 50 = 20$$

3. Which number makes the given equation true?

$$90,000 - \underline{\hspace{1.5cm}} = 30,000$$

    a) 70,000   b) 80,000

    c) 60,000   d) 50,000

4. The cost of a motorcycle is 88,000 dollars. You have 55,000 dollars. How much more money do you need to buy the motorcycle?

$$55,000 + \underline{\hspace{1.5cm}} = 88,000$$

5.

| 3,000 + 5,000 = _____
 English books | 9,000 - 2,000 = _____
 Math books |

Are there more English or Math books? Explain.

Exercise

1. The sum of 25, 50, and 375 is 450. What is the sum of 375, 50, and 25? Explain which property of addition you used.

2. Is 2,850 - 1,750 more or less than 1,000? How you can tell using mental math? Explain.

3. Which is the best estimate for 7,435 - 3,650?

        a) 4,000   b) 5,000

        c) 3,000   d) 2,000

4. On Friday, Mike sold 91 tickets to a school talent show. He sold 26 on Saturday and 84 on Sunday. About how many tickets to the talent show did he sell altogether?

Exercise

5. Use the numbers 1, 3, 5, and 7 to form two four-digit numbers using each number only once. One number will be the largest possible number using the four digits; the other will be the smallest possible number using the four digits. What is the sum of the two four-digit numbers?

6. Among 67,295 people in a city, 45,687 travel by train and the rest by bus. How many people travel by bus?

7. Write the smallest and greatest numbers of five digits. Then, find their sum.

8. Find the difference of the greatest and the smallest five-digit numbers which can be formed by numbers 0, 2, 4, 6, and 8 without repeating any digits.

Exercise

9. A dairy produces 50,000 bottles of milk in one day. It sold 42,655 bottles to various shops. How many bottles are left?

10. Add or subtract the following using patterns.

a)

25 + _____ = 65

250 + _____ = 650

2,500 + _____ = 6,500

25,000 + _____ = 65,000

b)

_____ - 33 = 44

_____ - 330 = 440

_____ - 3,300 = 4,400

_____ - 33,000 = 44,000

11. Are there more males or females? Explain.

60,000 + 50,000

= _____ Male

300,000 - 100,000

= _____ Female

Congratulations!

You have finished a lesson. You should be very proud of yourself.
Now it is time to progress to the next lesson.
Your next assignment is notated by a green arrow.

Answer Key of Lesson 2

Unit 2.1

1. a) 381   b) 435   c) 5,620   d) 265
2. a) 839   b) 341   c) 265   d) 435
   e) 5,945   f) 9,680   g) 409   h) 209
3. Friday and Monday   4. c   5. Less than

Unit 2.2

1. a) 1,450   b) 470   c) 6,840   d) 4,240
   e) 2,180   f) 2,610
2. a) 1,100   b) 400   c) 15,800   d) 2,400
3. a) 5,000   b) 7,000   c) 18,200   d) 5,300
4. 430   5. b   6. 6,900   7. 9,000

Unit 2.3

1. a) 854   b) 11,200   c) 1,138   d) 3,001
   e) 11,975   f) 1,885
2. a) 501   b) 6,146   c) 370   d) 6,363
3. a) 8,125   b) 4,225   c) 5,417   d) 8,855
4. 8,381   5. c   6. 3,370   7. 26,569

Unit 2.4

1. a) 10,800   b) 6,080   c) 377   d) 1,470
2. a) 454   b) 4,523   c) 2,933   d) 6,890
3. a) 9,310   b) 2,211   c) 1,195   d) 1,440
4. car   5. d   6. 3,525   7. 20,350,000

Unit 2.5

1. a) 9; 90; 900; 9,000   b) 3; 30; 300; 3,000
   c) 2; 20; 200; 2,000   d) 7; 70; 700; 7,000
   e) 3; 30; 300; 3,000   f) 9; 90; 900; 9,000
   g) 6; 60; 600; 6,000   h) 5; 50; 500; 5,000
   i) 4; 40; 400; 4,000   j) 1; 10; 100; 1,000
   K) 8; 80; 800; 8,000   l) 7; 70; 700; 7,000
2. 70   3. c
4. 33,000   5. English

Unit 2.6

1. 450; associative   2. More than
3. c   4. 200
5. 7,531; 1,357; 8,888
6. 21,608
7. 99,999; 10,000; 109,999
8. 86,420 - 20,468 = 65,952
9. 7,345
10. a) 40; 400; 4,000; 40,000   b) 77; 770; 7,700; 77,000
11. 110,000 < 200,000 (female greater)