## Striving To Improve



# Integers

For students aged 11 - 15 years who are underachieving at their year level.





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#### ♣ Place Value 3

#### \* TASK A Write this number so that the digits are in the correct columns.

Seven million, four hundred and fifty-six thousand, three hundred and twenty-two.

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1 000 000	100 000	10 000	1 000	100	10	1

#### \* TASK B Show these numbers on the table below.

	1 000 000	100 000	10 000	1 000	100	10	1
5 498 765							
2 098 634							
4 200 049					1.		
187 685							
280 097							
35 497							

\* TASK C Write the following parabers in expanded form.

3 487 978

E.g.  $(3 \times 1\ 000\ 000) + (4 \times 100\ 000) + (8 \times 10\ 000) + (7 \times 1000) + (9 \times 100) + (7 \times 10) + (8 \times 1)$ .

2 876 543

\_\_\_\_\_

7 653 012

## \* TASK D Write the place value and the face value for the underlined numbers below.

Number	Place Value	Face Value		
3 4 <u>2</u> 5 643	ten thousands	20 000		
<u>3</u> 298 765				

Number	Place Value	Face Value
5 36 <u>4</u> 243		
2 <u>5</u> 09 345		

#### Estimation 2

To estimate an answer we can think about what each number is close to. The number 43 is close to 40, 162 is close to 160.

\* TASK A Fill in each of the empty boxes to help you estimate what the answer should be. The first one is done for you.

a) **61 + 8** is about 60

So the answer is about

b) 32 + 11 is about So the answer is about

c) **79 – 19** is about

So the answer is about

**151 + 39** is about So the answer is about

e) **289 – 32** is about So the answer is about f) **531 49** is about ns er is about So th

#### \* TASK B

Circle the best and closest answer t doing any calculations.

790

1550

1000

#### ★ TASK C: SMALL GROUP CHALLENGE

Form a small group of 4 to 5 students.

- Measure your heights in centimetres and then estimate the total of your heights.
- Write down the time it takes for each of you to travel to school in minutes and then estimate your total travel time.
- Write down the amount of television each of you watches each week in minutes and then estimate your total television viewing time.

Height (centimetres)

Travel time to school (minutes)

Television viewing per week (minutes)

The rule of order states that you must do  $\times$  and  $\div$  before + and -.



So 
$$6 + 3 \times 4 = 6 + 12 = 18$$

So 
$$10 - 16 \div 4 = 10 - 4 = 6$$

\* TASK A ) Re-write these sums and then solve them.

**a.** 
$$5 \times 3 + 7 = \boxed{15} + \boxed{7} = \boxed{}$$

**e.** 
$$11 + 9 \times 5 = \boxed{ + \boxed{ }} = \boxed{ }$$

**b.** 
$$9 \times 3 + 6 = \boxed{ + \boxed{ }} = \boxed{ }$$

**f.** 
$$30 - 4 \times 4 = \boxed{ + \boxed{ }} = \boxed{ }$$

**c.** 
$$7 \times 8 + 9 = \boxed{ + \boxed{ }} = \boxed{ }$$

**d.** 
$$6 + 7 \times 7 = \boxed{6} + \boxed{49} = \boxed{}$$

it, you just do them in the order they If the sum has more than one  $\times$ appear. Look at these two example

#### Example 1

**Multiply first** 

 $4 \times 5 \div 10 + 3$ 

$$4 \times 5 \div 10 + 3 = 20 \div 10 + 3 = 2 + 3 = 5$$

Then divide

#### Example 2

 $65 - 30 \div 5 \times 3$ 

$$65 - 30 \div 5 \times 3 = 65 - 6 \times 3 = 65 - 18 = 47$$

Divide first Then multiply Then subtract

\* TASK B ) Solve these sums by following the rule of order.

Then add

**a.** 
$$3 \times 4 + 2 \times 7 = 12 + 2 \times 7$$

**b.** 
$$30 \div 3 + 4 \times 5 = \boxed{ }$$

$$\mathbf{c.} \quad 7 + 16 \div 4 \times 3 \quad = \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{\phantom{0}}$$

**d.** 
$$40 \div 8 \times 2 - 3 = \boxed{ }$$

#### Subtraction 1

Fybnqmf

Look at the following sum: **964** – **632**.

	Hundreds	Tens	Ones
	9	6	4
_	6	3	2
			2

	Hundreds	Tens	Ones
	9	6	4
_	6	3	2
·		3	2

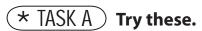
Hundreds	Tens	Ones
9	6	4
6	3	2
3	3	2

**Step 1:** Take away the Ones 4 - 2 = 2

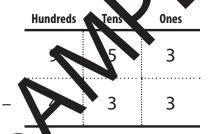
**Step 2:** Take away the Tens 6 - 3 = 3

**Step 3:** Take away the Hundreds 9-6=3

Remember to work from right to left.



_	Hundreds	Tens	Ones
	5	6	2
- -	4	5	1



Hunareas	iens	Unes
8	5	2
6	3	1

\* TASK B Try these sums.

#### Real Life Addition

#### Answer each of these word problems and be sure to show how you got your answer.

- If James has \$25 and Melissa has \$32 more than James, how much does Melissa have?
- The Kirtz family drank 5423 ml of milk last week and this week they've drunk 2374 ml of milk. How much milk have they drunk in two weeks?

- In the summer months the Bradley household uses 742 units of electricity and in the winter months they use 595 units of electricity. How much have they used altogether?
- Brett and Susie are going on a holiday.
  They drive 175 km from Perth to
  Bunby y and then another 279 km.
  How has the total journey?

- Michael is 12 years older than Michael Nicole is 32 years older than la nie.

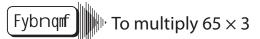
  Jamie is 8 years old. How old s

  Michael?
- In a local primary school there are 24 students in Year 1, 31 students in Year 2 and 29 students in Year 3. How many students are there in total in these three year groups?

- Max looks at his bank statement and sees that he spent \$230 on clothes, \$157 on groceries and \$75 on petrol. How much did he spend altogether?
- A Samantha is writing a story. On Monday she wrote 435 words, on Tuesday she wrote 240 words and on Wednesday she wrote 562 words. How many words has she written so far?

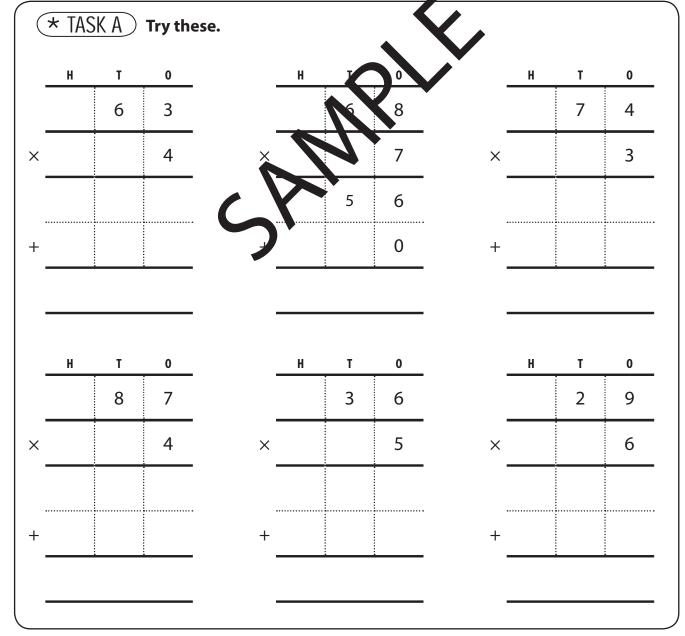


### **Გ** Multiplication: Regrouping 3



	Hundreds	Tens	Ones
		6	5
×			3
		1	5
+	1	8	0
	1	9	5

]	Step 1:					
	$5 \times 3 = 15$ (5 in the Ones column and 1 in the Tens.)				6	5
			×			3
<b>←</b>	<b>Step 2:</b> Put down the zero.	$\rightarrow$			1	5
	$6 \times 3 = 18$ (8 in the Tens column		+	1	8	0
	and 1 in the Hundreds.)			1	9	5
	<b>Step 3:</b> . 15 + 180 = 195					



$$25 \div 2 = 2)25$$
 This means how many times will 2 go into 25.

Divide the Tens column first: 
$$2 \div 2 = 1$$
 (write 1 on top of the 2)

$$2\frac{12 \text{ r}1}{25}$$
 Divide the Ones column next: 5 ÷ 2

**Count by twos: 2, 4, 6** 

What is the highest number less than 5? = 4 (goes in 2 times) (Write 2 on top of the 5.)

How many left over before you get to 5? = 1

1 is your remainder.

Answer = 12 remainder 1 or 12 r 1

#### \* TASK A Fill in the blanks.

$$57 \div 5 = 5)57$$
 This mean how many times will 5 go into \_\_\_\_\_.

Count by twos: 5, 10

#### \* TASK B Try these.