Striving To Improve

PHOTOCOPY MASTERS

Integers

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

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Contents

✪ 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							
187 685							
280 097							
35 497							

✶ TASK C **Write the following numbers in expanded form.**

3 487 978

E.g. (3 x 1 000 000) + (4 x 100 000) + (8 x 10 000) + (7 x 1000) + (9 x 100) + (7 x 10) + (8 x 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 + 10.
So the answer is about 70.

b) **32 + 11** is about ☐ + ☐.
So the answer is about ☐.

c) **79 – 19** is about ☐ – ☐.
So the answer is about ☐.

d) **151 + 39** is about ☐ + ☐.
So the answer is about ☐.

e) **289 – 32** is about ☐ – ☐.
So the answer is about ☐.

f) **531 – 49** is about ☐ + ☐.
So the answer is about ☐.

✶ TASK B

Circle the best and closest answer without doing any calculations.

a. 52 + 9 =	70	60	65
b. 89 – 32 =	50	60	55
c. 368 + 11 =	370	380	390
d. 831 – 29 =	790	800	810
e. 247 + 19 =	270	260	250
f. 998 – 12 =	980	990	1000
g. 1232 + 328 =	1550	1560	1570

✶ 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*)

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✪ Rule Of Order 2

- The rule of order states that you must do **× and ÷ before + and – .**

Fybnqmf!2 **6 + 3 × 4**

So 6 + 3 × 4 = 6 + 12 = 18

Fybnqmf!3 **10 – 16 ÷ 4**

So 10 – 16 ÷ 4 = 10 – 4 = 6

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

a. 5 × 3 + 7 = **15** + **7** = ☐

b. 9 × 3 + 6 = ☐ + ☐ = ☐

c. 7 × 8 + 9 = ☐ + ☐ = ☐

d. 6 + 7 × 7 = **6** + **49** = ☐

e. 11 + 9 × 5 = ☐ + ☐ = ☐

f. 30 – 4 × 4 = ☐ + ☐ = ☐

g. 45 – 5 – 7 = ☐ + ☐ = ☐

h. 60 – 42 ÷ 6 = ☐ – ☐ = ☐

- If the sum has more than one × or ÷ part to it, you just do them in the order they appear. Look at these two examples:

Example 1

4 × 5 ÷ 10 + 3

4 × 5 ÷ 10 + 3 = 20 ÷ 10 + 3 = 2 + 3 = 5

Multiply first **Then divide** **Then add**

Example 2

65 – 30 ÷ 5 × 3

65 – 30 ÷ 5 × 3 = 65 – 6 × 3 = 65 – 18 = 47

Divide first **Then multiply** **Then subtract**

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

a. 3 × 4 + 2 × 7 = **12** + **2** × **7** = **12** + **14** = ☐

b. 30 ÷ 3 + 4 × 5 = ☐ ☐ ☐ ☐ ☐ = ☐ ☐ ☐ = ☐

c. 7 + 16 ÷ 4 × 3 = ☐ ☐ ☐ ☐ ☐ = ☐ ☐ ☐ = ☐

d. 40 ÷ 8 × 2 – 3 = ☐ ☐ ☐ ☐ ☐ = ☐ ☐ ☐ = ☐

e. 24 ÷ 6 + 48 ÷ 8 = ☐ ☐ ☐ ☐ ☐ = ☐ ☐ ☐ = ☐

✪ 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.

✶ TASK A **Try these.**

Hundreds	Tens	Ones
5	6	2
– 4	5	1

Hundreds	Tens	Ones
[illegible]	5	3
– [illegible]	3	3

Hundreds	Tens	Ones
8	5	2
– 6	3	1

✶ TASK B **Try these sums.**

42	52	864	859
– 22	– 41	– 721	– 747
998	847	465	937
– 773	– 625	– 352	– 622

✪ Real Life Addition

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

a If James has $25 and Melissa has $32 more than James, how much does Melissa have?

b 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?

c 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?

d Brett and Susie are going on a holiday. They drive 175 km from Perth to Bunbury and then another 279 km. How far is the total journey?

e Michael is 12 years older than Nicole. Nicole is 32 years older than Jamie. Jamie is 8 years old. How old is Michael?

f 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?

g 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?

h 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?

✪ Multiplication: Regrouping 3

Fybnqmf To multiply 65 × 3

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

Step 1:
5 × 3 = 15
(5 in the Ones column and 1 in the Tens.)

Step 2:
Put down the zero.
6 × 3 = 18
(8 in the Tens column and 1 in the Hundreds.)

Step 3:
15 + 180 = 195

```
  6 5
×   3
  1 5
+ 1 8 0
  1 9 5
```

✶ TASK A **Try these.**

H	T	O
	6	3
×		4
+		

H	T	O
	6	8
×		7
	5	6
+		0

H	T	O
	7	4
×		3
+		

H	T	O
	8	7
×		4
+		

H	T	O
	3	6
×		5
+		

H	T	O
	2	9
×		6
+		

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✪ Division With Remainders 1

25 ÷ 2 = $2\overline{)25}$ **This means how many times will 2 go into 25.**

$\begin{array}{r}1\\2\overline{)25}\end{array}$ **Divide the Tens column first: 2 ÷ 2 = 1 (write 1 on top of the 2)**

$\begin{array}{r}12\text{ r}1\\2\overline{)25}\end{array}$ **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 ÷ 5 = $5\overline{)57}$ This means **how many times will 5 go into _____.**

$5\overline{)57}$ Divide the Tens column **first:** _____ ÷ _____ = _____

$5\overline{)57}$ Divide the Ones column **next:** _____ ÷ _____ = _____

Count by twos: 5, 10

What is the **highest** number **less than 7**? = _____
(goes in _____ **times**)

How many left over before you get to 7? = _____
_____ is your remainder.

Answer = _____ r_____

✶ TASK B **Try these.**

$4\overline{)86}$ $2\overline{)29}$ $3\overline{)68}$ $6\overline{)69}$