

# # ⊖ operation ⊕ n – sign

WORKING WITH POSITIVE & NEGATIVE NUMBERS

VERSION 1.0

$\square + \square = -12$

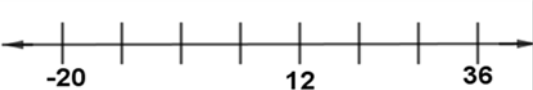
$\square - \square = -12$

$\square \cdot \square = -12$

$-3 \times -4 =$   
 $-2 \times -4 =$   
 $-1 \times -4 =$   
 $0 \times -4 =$   
 $1 \times -4 =$   
 $2 \times -4 =$   
 $3 \times -4 =$   
 $4 \times -4 =$

TRUE or FALSE:  
Negative seven subtract  
negative seven equals zero

Plot zero on the number line



$\frac{\square}{\square} = -12$

Which number is larger?  
 $(-25)^2$  or  $(-2)^{25}$

## #Operation-sign: Working with positive and negative numbers

These materials were produced by the Wits Maths Connect Secondary (WMCS) project at the University of the Witwatersrand.

Visit us at [www.witsmathsconnectsecondary.co.za](http://www.witsmathsconnectsecondary.co.za)

Team members:

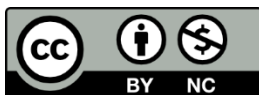
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# #⊖erati⊕n–sign

WORKING WITH POSITIVE & NEGATIVE NUMBERS

VERSION 1.0

## About this booklet

This booklet contains 14 worksheets dealing with negative numbers. The materials are intended for Grade 8 and 9 learners and include solutions for each question.

The pack is called **#⊖erati⊕n–sign** because we believe that the distinction between *operation* and *sign* lies at the heart of learners' difficulties with negative numbers.

Learners encounter negative numbers for the first time in Grade 7. Until then, the minus symbol (–) has only one meaning – the *operation of subtraction*. When learners encounter negative numbers, the minus symbol takes on another meaning – it can represent a *sign (negative)* or an *operation (subtraction)*. This makes things more confusing for learners. Consider the following example:

$$3 + (-5) = 3 - 5 = -2$$

The first minus symbol represents a *sign (negative five)*. The second minus symbol represents the *operation subtraction (three subtract five)*. The third minus symbol represents a *sign (negative two)*. For this reason, we pay very careful attention to the use of precise language when working with integers:

For operations, we say:	<i>add and subtract</i>
For signs, we say:	<i>positive and negative</i>

We avoid using *plus* and *minus* because these words don't tell us whether we are dealing with a sign or an operation. So we rather say:

Negative six add (positive) nine:	$-6 + 9 = 3$	
Five subtract positive seven:	$5 - (+7) = -2$	(equals negative two)
Negative five add negative seven:	$-5 + (-7) = -12$	(equals negative twelve)

The worksheets provide practice for learners. We assume they have already been taught the content. Worksheets include practice on the following aspects of working with positive and negative numbers: ordering and comparing, skip counting and number sequences, adding and subtracting, multiplying and dividing, powers, converting verbal expressions to numeric expressions, and working with flow diagrams.

It goes without saying that learners should not be using calculators when doing this work!

## Worksheet 1

In this task you will:

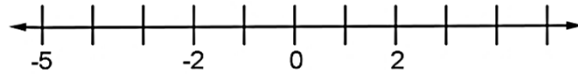
- Count, order and compare integers
- Add and subtract pairs of integers
- Write number sentences and calculate answers

No calculators!

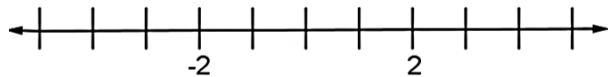
### Questions

1) Fill in the missing numbers on the number lines:

a)  $-4$ ;  $-3$ ;  $-1$ ;  $1$ ;  $2$ ;  $4$ ;  $5$



b)  $-7$ ;  $-6$ ;  $-5$ ;  $-4$ ;  $-3$ ;  $-1$ ;  $0$ ;  $1$ ;  $3$



2) Arrange the numbers from smallest to largest:  $25$ ;  $52$ ;  $20$ ;  $-52$ ;  $-25$ ;  $15$ ;  $-10$ ;  $0$

3) Fill in either  $<$  or  $>$  to make each statement true:

a)  $-5$  \_\_\_  $5$

b)  $0$  \_\_\_  $-5$

c)  $-10$  \_\_\_  $-5$

4) Calculate:

a)  $0 - 5 =$

b)  $8 - 5 =$

c)  $5 - 8 =$

d)  $-8 + 5 =$

e)  $-5 + 8 =$

5) True or false?

a)  $9 - 4 = 4 - 9$

b)  $3 - 6 = -6 + 3$

c)  $-7 - 3 = 7 + 3$

6) Write as a number sentence, then calculate the answer:

a) Eleven subtract twelve e.g.  $11 - 12 =$

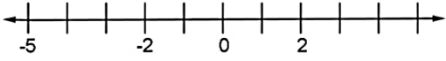
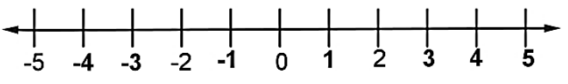
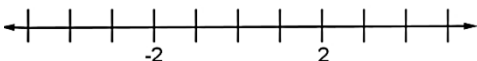
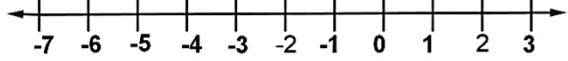
b) Negative five add three

c) Negative three add three

d) Negative four subtract two

e) Negative four add two

**Worksheet 1**
**Answers**

Questions	Answers
1) Fill in the missing numbers on the number lines:	1)
a) 	a) 
b) 	b) 
2) Arrange the numbers from smallest to largest: 25 ; 52; 20; -52; -25; 15; -10; 0	2) -52; -25; -10; 0; 15; 20; 25; 52
3) Fill in either < or > to make each statement true:	3)
a) -5 ___ 5	a) <
b) 0 ___ - 5	b) >
c) -10 ___ - 5	c) <
4) Calculate:	4)
a) $0 - 5 =$	a) -5
b) $8 - 5 =$	b) 3
c) $5 - 8 =$	c) -3
d) $-8 + 5 =$	d) -3
e) $-5 + 8 =$	e) 3
5) True or false?	5)
a) $9 - 4 = 4 - 9$	a) False
b) $3 - 6 = -6 + 3$	b) True
c) $-7 - 3 = 7 + 3$	c) False
6) Write as a number sentence, then calculate the answer:	6)
a) Eleven subtract twelve e.g. $11 - 12 =$	a) $11 - 12 = -1$
b) Negative five add three	b) $-5 + 3 = -2$
c) Negative three add three	c) $-3 + 3 = 0$
d) Negative four subtract two	d) $-4 - 2 = -6$
e) Negative four add two	e) $-4 + 2 = -2$

## Worksheet 2

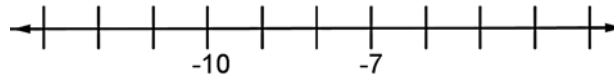
In this task you will:

- Count, order and compare integers
- Add pairs of integers with more focus on adding negative integers

No calculators!

### Questions

- 1) Fill in these numbers on the number line:  $-13$ ;  $-12$ ;  $-11$ ;  $-9$ ;  $-8$ ;  $-6$ ;  $-5$ ;  $-4$ ;  $-3$



- 2) Arrange the numbers in descending order (i.e. from biggest to smallest):

- a)  $0$ ;  $78$ ;  $-87$ ;  $-64$ ;  $46$ ;  $-63$   
 b)  $27$ ;  $270$ ;  $-720$ ;  $-72$ ;  $-200$ ;  $700$ ;  $-7$

- 3) Arrange the numbers in ascending order (i.e. from smallest to biggest):

$-525$ ;  $522$ ;  $-552$ ;  $-500$ ;  $225$ ;  $525$

- 4) Fill in  $<$  or  $>$  to make each statement true:

- a)  $-6$  \_\_\_  $-5$   
 b)  $-1$  \_\_\_  $-100$   
 c)  $-25$  \_\_\_  $-26$

- 5) Calculate:

- a)  $5 - 9 =$   
 b)  $3 - 7 =$   
 c)  $7 - 3 =$   
 d)  $4 - 9 =$   
 e)  $-4 - 9 =$

- 6) True or false? If false, change the right hand side to make the statement true.

- a)  $5 - 7 = -7 + 5$   
 b)  $-2 - 4 = 2 + 4$   
 c)  $2 - 8 = 6$

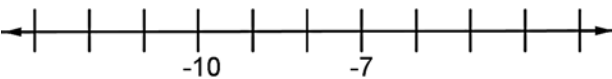
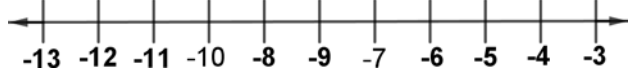
- 7) Write as a number sentence, then calculate the answer:

- a) Five subtract thirteen e.g.  $5 - 13 =$   
 b) Six subtract ten  
 c) Negative six subtract four  
 d) Negative twelve subtract three

- 8) The temperature was  $6^{\circ}\text{C}$  below zero. Two hours later the temperature dropped by one degree. What is the new temperature?

## Worksheet 2

### Answers

Questions	Answers
1) Fill in these numbers on the number line. $-13; -12; -11; -9; -8; -6; -5; -4; -3$ 	1) 
2) Arrange the numbers in descending order (i.e. from biggest to smallest):	2)
a) $0; 78; -87; -64; 46; -63$	a) $78; 46; 0; -63; -64; -87$
b) $27; 270; -720; -72; -200; 700; -7$	b) $700; 270; 27; -7; -72; -200; -720$
3) Arrange the numbers in ascending order (i.e. from smallest to biggest):	3)
$-525; 522; -552; -500; 225; 525$	$-552; -525; -500; 225; 522; 525$
4) Fill in $<$ or $>$ to make each statement true:	4)
a) $-6 \underline{\quad} -5$	a) $<$
b) $-1 \underline{\quad} -100$	b) $>$
c) $-25 \underline{\quad} -26$	c) $>$
5) Calculate:	5)
a) $5 - 9 =$	a) $-4$
b) $3 - 7 =$	b) $-4$
c) $7 - 3 =$	c) $4$
d) $4 - 9 =$	d) $-5$
e) $-4 - 9 =$	e) $-13$
6) True or false? If false, change the right hand side to make the statement true.	6)
a) $5 - 7 = -7 + 5$	a) True
b) $-2 - 4 = 2 + 4$	b) False, $-2 - 4$ or $-4 - 2$
c) $2 - 8 = 6$	c) False, $-6$
7) Write as a number sentence, then calculate the answer:	7)
a) Five subtract thirteen e.g. $5 - 13 =$	a) $5 - 13 = -8$
b) Six subtract ten	b) $6 - 10 = -4$
c) Negative six subtract four	c) $-6 - 4 = -10$
d) Negative twelve subtract three	d) $-12 - 3 = -15$
8) The temperature was $6^{\circ}\text{C}$ below zero. Two hours later the temperature dropped by one degree. What is the new temperature?	8) $-6 - 1 = -7^{\circ}\text{C}$

## Worksheet 3

In this task you will:

- Add and subtract pairs of integers
- Count integers in various intervals
- Add and subtract temperatures

No calculators!

### Questions

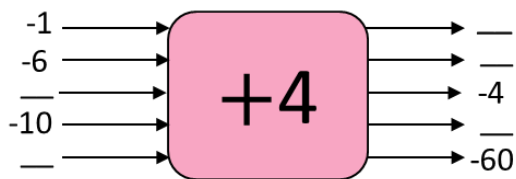
1) Calculate the following:

- $8 - 2 =$
- $2 - 8 =$
- $-2 - 8 =$
- $-2 + 8 =$

2) Write as a number sentence, then calculate the answer:

- Six subtract seven
- Negative six subtract seven
- Negative one subtract nine
- Negative one add nine

3) Copy and complete the flow diagram

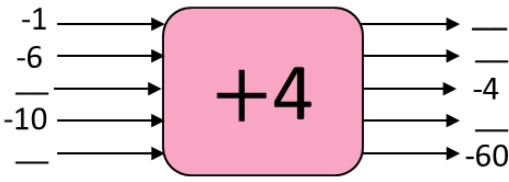


4) Fill in the missing numbers:

- $\_\_\_\_\_\_$ ;  $-4$ ;  $\_\_\_\_\_\_$ ;  $0$ ;  $2$ ;  $\_\_\_\_\_\_$
- $10$ ;  $\_\_\_\_\_\_$ ;  $4$ ;  $1$ ;  $\_\_\_\_\_\_$ ;  $-5$ ;  $\_\_\_\_\_\_$
- $\_\_\_\_\_\_$ ;  $-21$ ;  $-12$ ;  $-3$ ;  $\_\_\_\_\_\_$ ;  $\_\_\_\_\_\_$



**Worksheet 3**
**Answers**

Questions	Answers												
1) Calculate the following:	1)												
a) $8 - 2 =$	a) 6												
b) $2 - 8 =$	b) $-6$												
c) $-2 - 8 =$	c) $-10$												
d) $-2 + 8 =$	d) 6												
2) Write as a number sentence, then calculate the answer:	2)												
a) Six subtract seven	a) $6 - 7 = -1$												
b) Negative six subtract seven	b) $-6 - 7 = -13$												
c) Negative one subtract nine	c) $-1 - 9 = -10$												
d) Negative one add nine	d) $-1 + 9 = 8$												
3) Copy and complete the flow diagram 	3)												
	<table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>3</td> </tr> <tr> <td>-6</td> <td>-2</td> </tr> <tr> <td>-8</td> <td>-4</td> </tr> <tr> <td>-10</td> <td>-6</td> </tr> <tr> <td><b>-64</b></td> <td><b>-60</b></td> </tr> </tbody> </table>	Input	Output	-1	3	-6	-2	-8	-4	-10	-6	<b>-64</b>	<b>-60</b>
Input	Output												
-1	3												
-6	-2												
-8	-4												
-10	-6												
<b>-64</b>	<b>-60</b>												
4) Fill in the missing numbers:	4)												
a) ___; $-4$ ; ___; 0; 2; ___	a) <b><math>-6</math></b> ; $-4$ ; <b><math>-2</math></b> ; 0; 2; <b>4</b>												
b) 10; ___; 4; 1; ___; $-5$ ; ___	b) 10; <b>7</b> ; 4; 1; <b><math>-2</math></b> ; $-5$ ; <b><math>-8</math></b>												
c) ___; $-21$ ; $-12$ ; $-3$ ; ___; ___	c) <b><math>-30</math></b> ; $-21$ ; $-12$ ; $-3$ ; <b>6</b> ; <b>15</b>												
5) Determine the following	5)												
a) The temperature is $5^{\circ}\text{C}$ . It increases by $4^{\circ}\text{C}$ . What is the new temperature?	a) $9^{\circ}\text{C}$												
b) The temperature is $-5^{\circ}\text{C}$ . It increases by $4^{\circ}\text{C}$ . What is the new temperature?	b) $-1^{\circ}\text{C}$												
c) The temperature increased by $4^{\circ}\text{C}$ . Is it now $10^{\circ}\text{C}$ . What was the original temperature?	c) $6^{\circ}\text{C}$												
d) The temperature increased by $3^{\circ}\text{C}$ . It is now $1^{\circ}\text{C}$ . What was the original temperature?	d) $-2^{\circ}\text{C}$												

## Worksheet 4

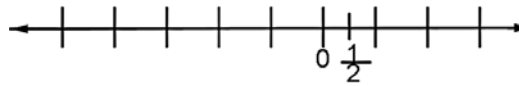
In this task you will:

- Order and compare positive and negative numbers

No calculators!

### Questions

- 1) Plot these five numbers  $3$ ;  $-4$ ;  $-2$ ;  $-\frac{1}{2}$ ;  $-5$  on the number line.



Use your answers to Q1 to help you with Q2 and Q3.

- 2) In each pair, which number is bigger?

a)  $3$  or  $-4$

b)  $-2$  or  $-\frac{1}{2}$

c)  $-2$  or  $-5$

d)  $-2$  or  $3$

- 3) In each pair, which number is closer to zero?

a)  $3$  or  $-4$

b)  $-2$  or  $-\frac{1}{2}$

c)  $-2$  or  $-5$

d)  $-2$  or  $3$

- 4) Mpumi says: "Surely the smaller number must always be closer to zero?"  
Do you agree? Look at your answers to Q2 and Q3 to support your point of view.

- 5) Fill in  $>$  or  $<$  to make each statement true:

a)  $12$  \_\_\_  $-12$

b)  $12$  \_\_\_  $-13$

c)  $-13$  \_\_\_  $-12$

d)  $13$  \_\_\_  $12$

- 6) Arrange in ascending order (from smallest to biggest):

a)  $-5$ ;  $-500$ ;  $2$ ;  $12$ ;  $-10$ ;  $-1$

b)  $5$ ;  $-200$ ;  $-201$ ;  $7$ ;  $-100$ ;  $-2$

- 7) Arrange in descending order (from biggest to smallest):

a)  $-0,7$ ;  $-10$ ;  $1$ ;  $0$ ;  $-20$ ;  $-7$

b)  $-8$ ;  $-40$ ;  $8$ ;  $0$ ;  $-7$ ;  $7$

- 8) Will the answer be positive or negative?

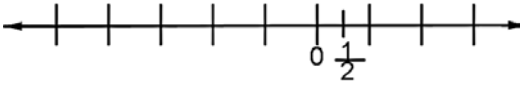
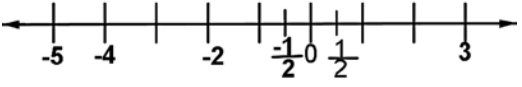
a)  $-23 + 32$

b)  $405 - 410$

c)  $-1 + 0,75$

d)  $-430 - 220$

**Worksheet 4**
**Answers**

Questions	Answers
1) Plot these five numbers $3; -4; -2; -\frac{1}{2}; -5$ on the number line. 	1) 
2) In each pair, which number is bigger?	2)
a) 3 or $-4$	a) 3
b) $-2$ or $-\frac{1}{2}$	b) $-\frac{1}{2}$
c) $-2$ or $-5$	c) $-2$
d) $-2$ or 3	d) 3
3) In each pair, which number is closer to zero?	3)
a) 3 or $-4$	a) 3
b) $-2$ or $-\frac{1}{2}$	b) $-\frac{1}{2}$
c) $-2$ or $-5$	c) $-2$
d) $-2$ or 3	d) $-2$
4) Mpumi says: "Surely the smaller number must always be closer to zero?" Do you agree? Look at your answers to Q2 and Q3 to support your point of view.	4) No. If both numbers are negative, the <i>larger</i> number is closer to zero. If both numbers are positive, the <i>smaller</i> number is closer to zero. If the numbers have opposite signs, then if you ignore the signs, the smaller number will be closer to zero.
5) Fill in $>$ or $<$ to make each statement true:	5)
a) $12 \_ - 12$	a) $>$
b) $12 \_ - 13$	b) $>$
c) $-13 \_ - 12$	c) $<$
d) $13 \_ 12$	d) $>$
6) Arrange in ascending order (from smallest to biggest):	6)
a) $-5; -500; 2; 12; -10; -1$	a) $-500; -10; -5; -1; 2; 12$
b) $5; -200; -201; 7; -100; -2$	b) $-201; -200; -100; -2; 5; 7$
7) Arrange in descending order (from biggest to smallest):	7)
a) $-0,7; -10; 1; 0; -20; -7$	a) $1; 0; -0,7; -7; -10; -20$
b) $-8; -40; 8; 0; -7; 7$	b) $8; 7; 0; -7; -8; -40$
8) Will the answer be positive or negative?	8)
a) $-23 + 32$	a) Positive
b) $405 - 410$	b) Negative
c) $-1 + 0,75$	c) Negative
d) $-430 - 220$	d) Negative

## Worksheet 5

In this task you will:

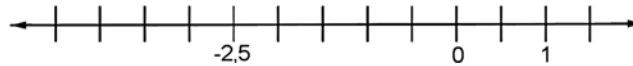
- Order and compare integers that include decimals and require simplification before comparing
- Add integers with leading negatives
- Write number sentences and calculate answers

No calculators!

### Questions

1) Fill in these numbers on the number line.

$-4,5$ ;  $-4$ ;  $-3,5$ ;  $-3$ ;  $-2$ ;  $-1,5$ ;  $-1$ ;  $-0,5$ ;  $0,5$



2) Arrange the following groups of numbers in ascending order (from smallest to biggest):

a)  $-7$ ;  $8$ ;  $-9$ ;  $10$ ;  $11$ ;  $-12$

b)  $0,5$ ;  $-0,5$ ;  $0$ ;  $0,25$ ;  $-0,25$ ;  $-1$

3) Arrange these numbers in descending order (from biggest to smallest):

$125$ ;  $-12,5$ ;  $12$ ;  $-15$ ;  $-10$ ;  $12,5$

4) Fill either  $>$  or  $<$  to make each statement true:

a)  $-12 + 10$  \_\_\_  $12 - 10$

b)  $-5 + 7$  \_\_\_  $12$

c)  $7 - 10$  \_\_\_  $7 - 11$

5) Calculate:

a)  $-7 + 4 =$

b)  $-15 + 10 =$

c)  $-15 + 15 =$

d)  $-8 - 6 =$

e)  $-12 + 6 =$

6) True or false?

a)  $-\frac{1}{2} > -1$

b)  $-5 + 5 = 0$

c)  $-6 + 7 = -13$

7) Write as a number sentence, then calculate the answer:

a) Subtract seven from six

b) Subtract seven from negative six

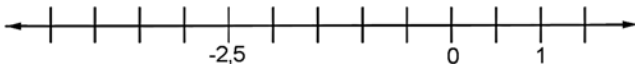
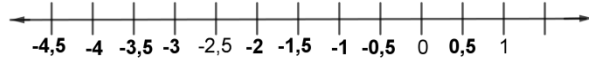
c) Add twenty to negative fifteen

d) Negative fourteen subtract five

e) Negative half subtract a half

8) The temperature was  $-3^{\circ}\text{C}$ . It then rose to  $5^{\circ}\text{C}$ . How many degrees did the temperature go up by?

**Worksheet 5**
**Answers**

Questions	Answers
1) Fill in these numbers on the number line. $-4,5; -4; -3,5; -3; -2; -1,5; -1; -0,5; 0,5$ 	1) 
2) Arrange the following groups of numbers in ascending order (from smallest to biggest):	2)
a) $-7; 8; -9; 10; 11; -12$	a) $-12; -9; -7; 8; 10; 11$
b) $0,5; -0,5; 0; 0,25; -0,25; -1$	b) $-1; -0,5; -0,25; 0; 0,25; 0,5$
3) Arrange these numbers in descending order (from biggest to smallest): $125; -12,5; 12; -15; -10; 12,5$	3) $125; 12,5; 12; -10; -12,5; -15$
4) Fill either $>$ or $<$ to make each statement true:	4)
a) $-12 + 10 \underline{\hspace{1cm}} 12 - 10$	a) $<$
b) $-5 + 7 \underline{\hspace{1cm}} 12$	b) $<$
c) $7 - 10 \underline{\hspace{1cm}} 7 - 11$	c) $>$
5) Calculate:	5)
a) $-7 + 4 =$	a) $-3$
b) $-15 + 10 =$	b) $-5$
c) $-15 + 15 =$	c) $0$
d) $-8 - 6 =$	d) $-14$
e) $-12 + 6 =$	e) $-6$
6) True or false?	6)
a) $-\frac{1}{2} > -1$	a) True
b) $-5 + 5 = 0$	b) True
c) $-6 + 7 = -13$	c) False
7) Write as a number sentence, then calculate the answer:	7)
a) Subtract seven from six	a) $6 - 7 = -1$
b) Subtract seven from negative six	b) $-6 - 7 = -13$
c) Add twenty to negative fifteen	c) $-15 + 20 = 5$ or $20 + (-15) = 5$
d) Negative fourteen subtract five	d) $-14 - 5 = -19$
e) Negative half subtract a half	e) $-\frac{1}{2} - \frac{1}{2} = -1$
8) The temperature was $-3^{\circ}\text{C}$ . It then rose to $5^{\circ}\text{C}$ . How many degrees did the temperature go up by?	8) It is $3^{\circ}$ to get from $-3^{\circ}$ to zero, then it increases by another $5^{\circ}$ . So a total of $8^{\circ}$ .

## Worksheet 6

In this task you will:

- Add and subtract integers written in brackets...
- Add and subtract pairs of integers and three integers...
- Write number sentences and calculate answers

No calculators!

### Questions

1) Calculate the following:

a)  $4 - (-7) =$

b)  $4 - 7 =$

c)  $4 + (-7) =$

d)  $-4 - 7 =$

e)  $-7 + (-4) =$

f)  $-4 + 7$

g)  $-7 - (-4) =$

h)  $-7 + 4$

2) Write as numerical statements and then calculate the answer:

a) Six add negative seven

b) Negative six add negative seven

c) Negative one add negative nine

d) Negative one add positive nine

3) True or false? If the answer is false, change the right side to make the statement true.

a)  $8 - 3 = 3 - 8$

b)  $8 + (-3) = -11$

c)  $-8 + 3 = -11$

d)  $-3 + 8 = 5$

4) Calculate:

a)  $4 - (-5) + 2 =$

b)  $4 - 7 - 3 =$

c)  $4 + (-7) - (-7) =$

d)  $-7 - 5 + 3 =$

e)  $-7 + (-9) - 2 =$

**Worksheet 6**
**Answers**

Questions	Answers
1) Calculate the following:	1)
a) $4 - (-7) =$	a) 11
b) $4 - 7 =$	b) -3
c) $4 + (-7) =$	c) -3
d) $-4 - 7 =$	d) -11
e) $-7 + (-4) =$	e) -11
f) $-4 + 7$	f) 3
g) $-7 - (-4) =$	g) -3
h) $-7 + 4$	h) -3
2) Write as numerical statements and then calculate the answer:	2)
a) Six add negative seven	a) $6 + (-7) = -1$
b) Negative six add negative seven	b) $-6 + (-7) = -13$
c) Negative one add negative nine	c) $-1 + (-9) = -10$
d) Negative one add positive nine	d) $-1 + 9 = 8$
3) True or false? If the answer is false, change the right side to make the statement true.	3)
a) $8 - 3 = 3 - 8$	a) False, 5 or $8 - 3$ or $-3 + 8$ etc.
b) $8 + (-3) = -11$	b) False, 5 or $-3 + 8$ or $8 - 3$ etc.
c) $-8 + 3 = -11$	c) False, -5 or $3 + (-8)$ or $1 - 6$ , etc.
d) $-3 + 8 = 5$	d) True 5
4) Calculate:	4)
a) $4 - (-5) + 2 =$	a) 11
b) $4 - 7 - 3 =$	b) -6
c) $4 + (-7) - (-7) =$	c) 4
d) $-7 - 5 + 3 =$	d) -9
e) $-7 + (-9) - 2 =$	e) -18

## Worksheet 7

In this task you will:

- Add and subtract three terms
- Work with integers written in brackets

No calculators!

### Questions

1) Calculate the following:

- a)  $3 + 7 - 9 =$
- b)  $3 - 7 + 9 =$
- c)  $3 - 7 - 9 =$
- d)  $-7 + 3 - 9 =$

2) Calculate the following:

- a)  $(-1) + 3 - 5 =$
- b)  $-1 + (-3) - 5 =$
- c)  $-1 - 3 - (-5) =$
- d)  $-1 - (+3) - 5 =$

3) Calculate the following:

- a)  $2 + 6 - 8 =$
- b)  $2 + (6 - 8) =$
- c)  $2 - 6 - 8 =$
- d)  $2 - (6 - 8) =$
- e)  $(2 - 6) - 8 =$
- f)  $-2 + (-6 - 8) =$
- g)  $-2 - (-6 - 8) =$

4) Write as numeric statements and then calculate the answers:

- a) Positive two add six subtract nine
- b) Negative two add negative six subtract nine
- c) Two subtract five add negative nine



**Worksheet 7**
**Answers**

Questions	Answers
1) Calculate the following:	1)
a) $3 + 7 - 9 =$	a) 1
b) $3 - 7 + 9 =$	b) 5
c) $3 - 7 - 9 =$	c) -13
d) $-7 + 3 - 9 =$	d) -13
2) Calculate the following:	2)
a) $(-1) + 3 - 5 =$	a) -3
b) $-1 + (-3) - 5 =$	b) -9
c) $-1 - 3 - (-5) =$	c) 1
d) $-1 - (+3) - 5 =$	d) -9
3) Calculate the following:	3)
a) $2 + 6 - 8 =$	a) 0
b) $2 + (6 - 8) =$	b) 0
c) $2 - 6 - 8 =$	c) -12
d) $2 - (6 - 8) =$	d) 4
e) $(2 - 6) - 8 =$	e) -12
f) $-2 + (-6 - 8) =$	f) -16
g) $-2 - (-6 - 8) =$	g) 12
4) Write as numeric statements and then calculate the answers:	4)
a) Positive two add six subtract nine	a) $2 + 6 - 9 = -1$
b) Negative two add negative six subtract nine	b) $-2 + (-6) - 9 = 17$
c) Two subtract five add negative nine	c) $2 - 5 + (-9) = -12$

## Worksheet 8

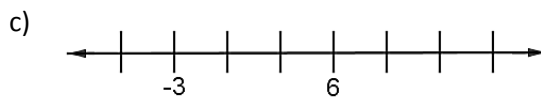
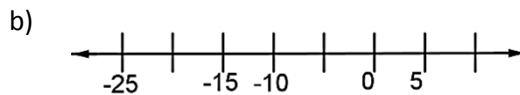
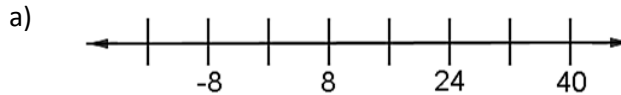
In this task you will:

- Count in multiples on number lines
- Add and subtract with one or two integers in brackets
- Work backwards to find the missing number in an addition question

No calculators!

### Questions

1) Fill in the missing numbers on each number line.



2) True or false? Give examples to support your answer.

- When you subtract a positive number from a positive number, the answer will always be positive.
- When you add two negative numbers, the sum will always be negative.

3) Evaluate the following:

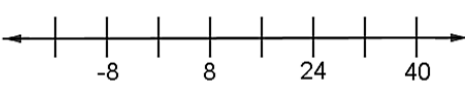
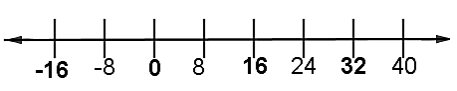
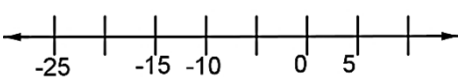
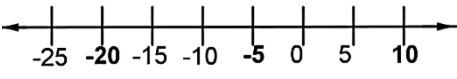
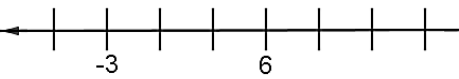
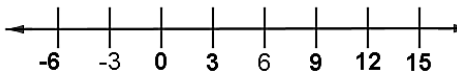
- |                 |  |
|-----------------|--|
| a) $8 - 13$     | f) $9 - (4 - 2)$                               |
| b) $-8 - 13$    | g) $9 + (4 - 2)$                               |
| c) $-8 - (-13)$ | h) $-9 + (-4 + 2)$                             |
| d) $9 + 4 - 2$  | i) $-(9 + 4) - 2$                              |
| e) $9 - 4 - 2$  | j) $(-9 + 4) + (-9 + 4) + (-9 + 4) + (-9 + 4)$ |

4) Fill in the missing numbers to make each statement true:

- $-15 + \underline{\quad} = -1$
- $-15 - \underline{\quad} = -1$
- $-15 - \underline{\quad} = 20$
- $-15 - \underline{\quad} = -20$
- $\underline{\quad} - 20 = -1$

## Worksheet 8

### Answers

Questions	Answers
1) Fill in the missing numbers on each number line.	1)
a) 	a) 
b) 	b) 
c) 	c) 
2) True or false? Give examples to support your answer.	2)
a) When you subtract a positive number from a positive number, the answer will always be positive.	a) False. The sign of the answer will depend on the size of the 2 numbers. If the second number is larger than the first, the answer will be negative, e.g. $12 - 8 > 0$ but $8 - 12 < 0$
b) When you add two negative numbers, the sum will always be negative.	b) True. Start at a number below zero on a number line - then add another negative number, the sum will become "more negative" and be further from zero on the left. E.g. $-15 + (-30) = -45$
3) Evaluate the following:	3)
a) $8 - 13$	a) $-5$
f) $9 - (4 - 2)$	f) $7$
b) $-8 - 13$	b) $-21$
g) $9 + (4 - 2)$	g) $11$
c) $-8 - (-13)$	c) $5$
h) $-9 + (-4 + 2)$	h) $-11$
d) $9 + 4 - 2$	d) $11$
i) $-(9 + 4) - 2$	i) $-15$
e) $9 - 4 - 2$	e) $3$
j) $(-9 + 4) + (-9 + 4) + (-9 + 4) + (-9 + 4)$	j) $4(-5) = -20$
4) Fill in the missing numbers to make each statement true:	4)
a) $-15 + \underline{\quad} = -1$	a) $-15 + \mathbf{14} = -1$
b) $-15 - \underline{\quad} = -1$	b) $-15 - \mathbf{(-14)} = -1$
c) $-15 - \underline{\quad} = 20$	c) $-15 - \mathbf{(-25)} = 20$
d) $-15 - \underline{\quad} = -20$	d) $-15 - \mathbf{5} = -20$
e) $\underline{\quad} - 20 = -1$	e) $\mathbf{19} - 20 = -1$

## Worksheet 9

In this task you will:

- Add and subtract with one or two integers in brackets
- Work forwards and backwards to determine missing numbers
- Write number sentences and calculate the answers

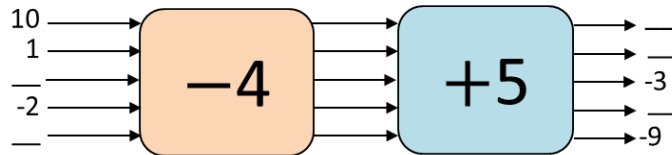
No calculators!

### Questions

1) Calculate the following

- $6 - 15 =$
- $-6 - 15 =$
- $-6 + 15 =$
- $15 - (+6) =$
- $-15 - (-6) =$
- $-(15 - 6) =$

2) Complete the following flow diagram:



3) Calculate the following:

- $10 - (4 + 5)$
- $(1 - 4) + 5$
- $-2 + (-4) - (-5)$
- $-(2 + 4) + (-5)$

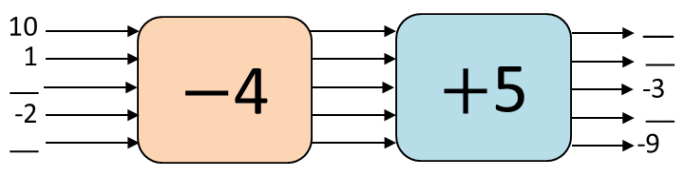
4) Write a number sentence then calculate the answer:

- The sum of 3 and 12
- The sum of negative 3 and negative 12
- 12 added to negative 3
- Subtract 12 from negative 25
- 12 subtract negative 3, then add 8

5) Fill in a number to make the statement true:

- $4 - (\underline{\quad} + 6) = -16$
- $4 - (+6) = -16 + \underline{\quad}$
- $-4 + (-12) = 5 + \underline{\quad}$
- $(\underline{\quad} + 8) - 5 = -17$

**Worksheet 9**
**Answers**

Questions	Answers												
1) Calculate the following	1)												
a) $6 - 15 =$	a) $-9$												
b) $-6 - 15 =$	b) $-21$												
c) $-6 + 15 =$	c) $9$												
d) $15 - (+6) =$	d) $9$												
e) $-15 - (-6) =$	e) $-9$												
f) $-(15 - 6) =$	f) $-9$												
2) Complete the following flow diagram: 	2) <table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th><u>Input</u></th> <th><u>Output</u></th> </tr> </thead> <tbody> <tr> <td>10</td> <td><b>11</b></td> </tr> <tr> <td>1</td> <td><b>2</b></td> </tr> <tr> <td>-4</td> <td>-3</td> </tr> <tr> <td>-2</td> <td><b>-1</b></td> </tr> <tr> <td><b>-10</b></td> <td>-9</td> </tr> </tbody> </table>	<u>Input</u>	<u>Output</u>	10	<b>11</b>	1	<b>2</b>	-4	-3	-2	<b>-1</b>	<b>-10</b>	-9
<u>Input</u>	<u>Output</u>												
10	<b>11</b>												
1	<b>2</b>												
-4	-3												
-2	<b>-1</b>												
<b>-10</b>	-9												
3) Calculate the following:	3)												
a) $10 - (4 + 5)$	a) $1$												
b) $(1 - 4) + 5$	b) $2$												
c) $-2 + (-4) - (-5)$	c) $-1$												
d) $-(2 + 4) + (-5)$	d) $-11$												
4) Write a number sentence then calculate the answer:	4)												
a) The sum of 3 and 12	a) $3 + 12 = 15$												
b) The sum of negative 3 and negative 12	b) $-3 + (-12) = -15$												
c) 12 added to negative 3	c) $(-3) + 12 = 9$												
d) Subtract 12 from negative 25	d) $-25 - 12 = -37$												
e) 12 subtract negative 3, then add 8	e) $12 - (-3) + 8 = 23$												
5) Fill in a number to make the statement true:	5)												
a) $4 - (\underline{\quad} + 6) = -16$	a) $14$												
b) $4 - (+6) = -16 + \underline{\quad}$	b) $14$												
c) $-4 + (-12) = 5 + \underline{\quad}$	c) $-21$												
d) $(\underline{\quad} + 8) - 5 = -17$	d) $-20$												

## Worksheet 10

In this task you will:

- Compare multiplication and addition
- Work with integers written in brackets
- Work backwards to find the missing number and or operation

No calculators!

### Questions

1) Choose *positive* or *negative* to make these statements true:

- The product of 3 negative numbers is positive/negative
- The sum of 3 negative numbers is positive/negative
- The sum of 2 negative numbers is positive/negative
- The product of 2 negative numbers is positive/negative

2) State whether the product is positive or negative:

- $-5 \times 2$
- $-2 \times (-5)$
- $(-2)(-5)$
- $5 \times (-2)(-10)$

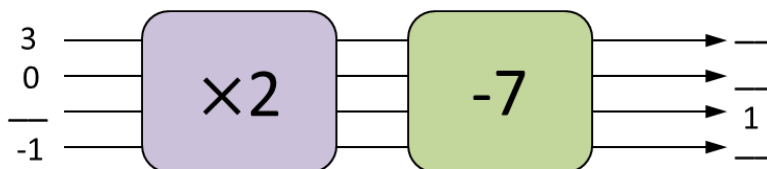
3) Calculate:

- $12 \times (-3) =$
- $-7 \times (-5) =$
- $-4 \times 7 =$
- $-(15) \times (4) =$

4) True or false?

- $-8 \times (-5) = 5 \times 8$
- $-8 \times 5 = (-5) \times 8$
- $5 - (-7) = 5 - 7$
- $5 - (-7) = 35$

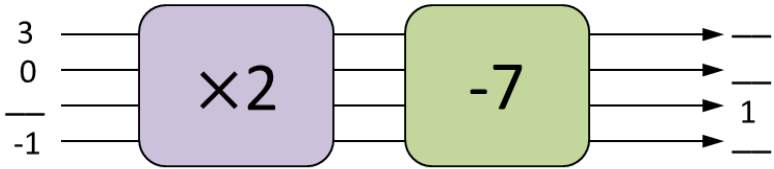
5) Copy and complete the flow diagram.



6) Fill in the missing number/operation to make each statement true:

- $-9 \times \underline{\hspace{1cm}} = -27$
- $-9 \underline{\hspace{1cm}} = -12$
- $-2 \times (-15) = \underline{\hspace{1cm}}$
- $-2 \times \underline{\hspace{1cm}} = -36$

**Worksheet 10**
**Answers**

Questions	Answers										
1) Choose <i>positive</i> or <i>negative</i> to make these statements true:	1)										
a) The product of 3 negative numbers is positive/negative	a) Negative										
b) The sum of 3 negative numbers is positive/negative	b) Negative										
c) The sum of 2 negative numbers is positive/negative	c) Negative										
d) The product of 2 negative numbers is positive/negative	d) Positive										
2) State whether the product is positive or negative:	2)										
a) $-5 \times 2$	a) Negative										
b) $-2 \times (-5)$	b) Positive										
c) $(-2)(-5)$	c) Positive										
d) $5 \times (-2)(-10)$	d) Positive										
3) Calculate:	3)										
a) $12 \times (-3) =$	a) $-36$										
b) $-7 \times (-5) =$	b) $35$										
c) $-4 \times 7 =$	c) $-28$										
d) $-(15) \times (4) =$	d) $-60$										
4) True or false?	4)										
a) $-8 \times (-5) = 5 \times 8$	a) True										
b) $-8 \times 5 = (-5) \times 8$	b) True										
c) $5 - (-7) = 5 - 7$	c) False										
d) $5 - (-7) = 35$	d) False										
5) Copy and complete the flow diagram.	5) <table border="1" style="display: inline-table; vertical-align: top;"> <thead> <tr> <th><u>Input</u></th> <th><u>Output</u></th> </tr> </thead> <tbody> <tr> <td>3</td> <td><b>-1</b></td> </tr> <tr> <td>0</td> <td><b>-7</b></td> </tr> <tr> <td><b>4</b></td> <td><b>1</b></td> </tr> <tr> <td>-1</td> <td><b>-9</b></td> </tr> </tbody> </table>	<u>Input</u>	<u>Output</u>	3	<b>-1</b>	0	<b>-7</b>	<b>4</b>	<b>1</b>	-1	<b>-9</b>
<u>Input</u>	<u>Output</u>										
3	<b>-1</b>										
0	<b>-7</b>										
<b>4</b>	<b>1</b>										
-1	<b>-9</b>										
											
6) Fill in the missing number/operation to make each statement true:	6)										
a) $-9 \times \underline{\quad} = -27$	a) $-9 \times \mathbf{3} = -27$										
b) $-9 \underline{\quad} = -12$	b) $-9 - \mathbf{3} = -12$										
c) $-2 \times (-15) = \underline{\quad}$	c) $-2 \times (-15) = \mathbf{30}$										
d) $-2 \times \underline{\quad} = -36$	d) $-2 \times \mathbf{18} = -36$										

## Worksheet 11

In this task you will:

- Multiply and add integers that are in brackets
- Complete number patterns
- Calculate two unknown numbers

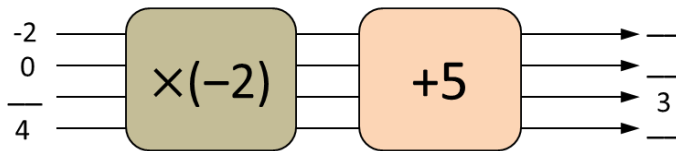
No calculators!

### Questions

1) Will the answer be positive or negative?

- $-6 \times 4 =$
- $(-5 + 6) \times (-4) =$
- $4 \times (-5) =$
- $5 - (-6 + 4) =$

2) Copy and complete the flow diagram:



3) Calculate the following:

- $12 + (-10) - 4 =$
- $3 \times (-4) + 5 =$
- $4 - (-3) + 3 =$
- $7 + (-5) - 6 =$
- $6 \times (-5) + 7 =$
- $-4 + (-6) - 5 =$
- $-4 \times (-6) - 5 =$

4) Write as a number sentence and then calculate:

- Seven subtract negative five is then multiplied by two.
- Negative two multiplied by negative five is then increased by seven.

5) Determine the missing terms:

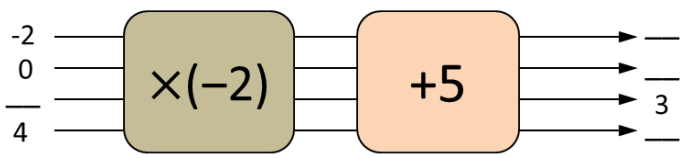
- 10; \_\_\_; 2; \_\_\_;  $-6$ ; \_\_\_
- \_\_\_;  $-35$ ;  $-10$ ; \_\_\_; \_\_\_; 65

6) What are the two numbers if:

- the sum of two numbers is 1 and their product is  $-20$ ?
- the sum of two numbers is  $-5$  and their product is 6?
- the product of two numbers is 80. Their sum is  $-18$ ?



**Worksheet 11**
**Answers**

Questions	Answers										
1) Will the answer be positive or negative?	1)										
a) $-6 \times 4 =$	a) Negative										
b) $(-5 + 6) \times (-4) =$	b) Negative										
c) $4 \times (-5) =$	c) Negative										
d) $5 - (-6 + 4) =$	d) Positive										
2) Copy and complete the flow diagram:	2) <table border="1" style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>-2</td> <td><b>9</b></td> </tr> <tr> <td>0</td> <td><b>5</b></td> </tr> <tr> <td><b>1</b></td> <td>3</td> </tr> <tr> <td>4</td> <td><b>-3</b></td> </tr> </tbody> </table>	Input	Output	-2	<b>9</b>	0	<b>5</b>	<b>1</b>	3	4	<b>-3</b>
Input	Output										
-2	<b>9</b>										
0	<b>5</b>										
<b>1</b>	3										
4	<b>-3</b>										
											
3) Calculate the following:	3)										
a) $12 + (-10) - 4 =$	a) -2										
b) $3 \times (-4) + 5 =$	b) -7										
c) $4 - (-3) + 3 =$	c) 10										
d) $7 + (-5) - 6 =$	d) -4										
e) $6 \times (-5) + 7 =$	e) -23										
f) $-4 + (-6) - 5 =$	f) -15										
g) $-4 \times (-6) - 5 =$	g) 19										
4) Write as a number sentence and then calculate:	4)										
a) Seven subtract negative five is then multiplied by two.	a) $(7 - (-5)) \times 2 = 24$										
b) Negative two multiplied by negative five is then increased by seven.	b) $-2 \times (-5) + 7 = 17$										
5) Determine the missing terms:	5)										
a) 10; ___; 2; ___; -6; ___	a) 10; <b>6</b> ; 2; <b>-2</b> ; -6; <b>-10</b>										
b) ___; -35; -10; ___; ___; 65	b) <b>-60</b> ; -35; -10; <b>15</b> ; <b>40</b> ; 65										
6) What are the two numbers if:	6)										
a) the sum of two numbers is 1 and their product is -20?	a) -4 and 5										
b) the sum of two numbers is -5 and their product is 6?	b) -3 and -2										
c) the product of two numbers is 80. Their sum is -18?	c) -10 and -8										

## Worksheet 12

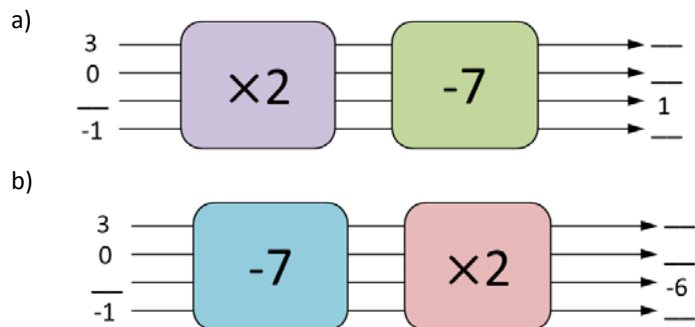
In this task you will:

- Add and multiply integers written in brackets
- Complete number patterns
- Solve problems

No calculators!

### Questions

1) Complete the following flow diagrams:



Q1a and Q1b contain the same operations (*multiply by 2* and *subtract 7*) but the operations are in a different order. How does this affect your answers?

2) Calculate the following:

- $7 + (-11) =$
- $-11 - 11 =$
- $-7 - (-11) =$
- $(-11) + 7 =$

3) Fill in either  $<$ ,  $>$  or  $=$  to make the statements true:

- $5 - (+5) \underline{\hspace{1cm}} 5 - 5$
- $-2 - 4 \underline{\hspace{1cm}} 4 + 2$
- $2 \times (-6) \underline{\hspace{1cm}} -8$
- $-3 \times (-4) \underline{\hspace{1cm}} 3 \times 4$

4) True or false?

- $25 = 5 \times (-5)$
- $36 = (-9) \times (-4)$
- $5 + (-9) = -45$
- $-5 - (-4) = -1$

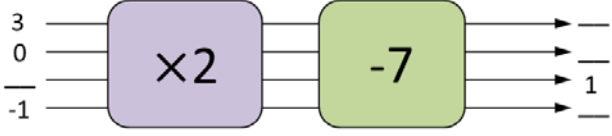
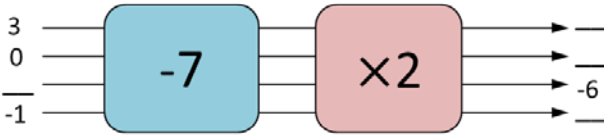
5) Give the first four terms of each pattern:

- The first term is  $-7$ . Add 3 to get the next term.
- The first term is  $-3$ . Multiply by  $-2$  to get the next term.

6) Complete:

- The sum of two numbers is  $-2$ . Their product is  $-24$ . What are the numbers?
- The product of two numbers is  $-36$ . Their sum is zero. What are the numbers?

**Worksheet 12**
**Answers**

Questions	Answers										
2) Complete the following flow diagrams:	1)										
a) 	<table border="1"> <thead> <tr> <th>a) Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>-1</td> </tr> <tr> <td>0</td> <td>-7</td> </tr> <tr> <td>4</td> <td>1</td> </tr> <tr> <td>-1</td> <td>-9</td> </tr> </tbody> </table>	a) Input	Output	3	-1	0	-7	4	1	-1	-9
a) Input	Output										
3	-1										
0	-7										
4	1										
-1	-9										
b) 	<table border="1"> <thead> <tr> <th>b) Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>-8</td> </tr> <tr> <td>0</td> <td>14</td> </tr> <tr> <td>4</td> <td>-6</td> </tr> <tr> <td>-1</td> <td>-16</td> </tr> </tbody> </table>	b) Input	Output	3	-8	0	14	4	-6	-1	-16
b) Input	Output										
3	-8										
0	14										
4	-6										
-1	-16										
3) Calculate the following:	2)										
a) $7 + (-11) =$	a) -4										
b) $-11 - 11 =$	b) -22										
c) $-7 - (-11) =$	c) 4										
d) $(-11) + 7 =$	d) -4										
4) Fill in either $<$ , $>$ or $=$ to make the statements true:	3)										
a) $5 - (+5) \underline{\hspace{1cm}} 5 - 5$	a) =										
b) $-2 - 4 \underline{\hspace{1cm}} 4 + 2$	b) $<$										
c) $2 \times (-6) \underline{\hspace{1cm}} -8$	c) $<$										
d) $-3 \times (-4) \underline{\hspace{1cm}} 3 \times 4$	d) =										
5) True or false?	4)										
a) $25 = 5 \times (-5)$	a) False										
b) $36 = (-9) \times (-4)$	b) True										
c) $5 + (-9) = -45$	c) False										
d) $-5 - (-4) = -1$	d) True										
6) Give the first four terms of each pattern:	5)										
a) The first term is $-7$ . Add 3 to get the next term.	a) $-7; -4; -1; 2$										
b) The first term is $-3$ . Multiply by $-2$ to get the next term.	b) $-3; 6; -12; 24$										
7) Complete:	6)										
a) The sum of two numbers is $-2$ . Their product is $-24$ . What are the numbers?	a) $-6$ and $4$										
b) The product of two numbers is $-36$ . Their sum is zero. What are the numbers?	b) $6$ and $-6$										

## Worksheet 13

In this task you will:

- Work with sums, products, quotients, squares and cubes
- Work with questions including brackets

No calculators!

### Questions

1) Write a number sentence and then calculate:

- The product of five and negative seven
- The sum of negative five and negative eleven
- The sum of positive three and negative twenty, then multiplied by negative two

2) Insert  $<$  or  $>$  or  $=$  to make each statement true:

- $(-7)^2$  \_\_\_  $(6)^2$
- $(123)^3$  \_\_\_  $(-123)^3$
- $(-45)^2$  \_\_\_  $(45)^2$

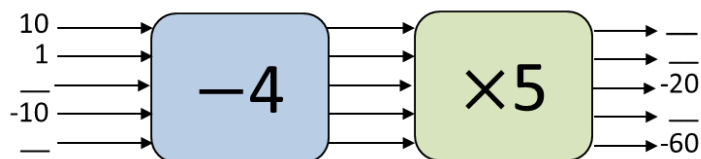
3) True or false?

- $(-4)^2 = (-2)^2$
- $(-6)(7) = 6(-7)$
- $-16 + 4 = 16 - 4$
- $\frac{-12}{-2} = \frac{12}{2}$
- $4(-15) = 15 - 4$

4) Will the answer be positive or negative or zero?

- $(-1)^3 - 1$
- $(-1)^2 + (-1)^3 + (-1)^2$

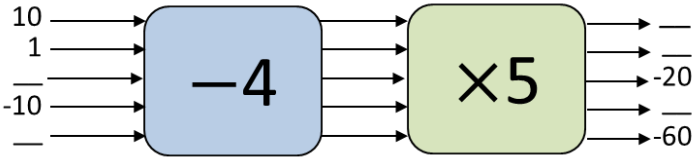
5) Copy and complete the flow diagram:



6) Evaluate:

- $(4 - 11)(5 + 9) =$
- $1(-2) - 3(-4) + 5(-6) =$
- $-7 + 8(-2) + 3 =$
- $-7 - 8 - (8 + 4) - 3 =$

**Worksheet 13**
**Answers**

Questions	Answers												
1) Write a number sentence and then calculate:	1)												
a) The product of five and negative seven	a) $5(-7) = -35$												
b) The sum of negative five and negative eleven	b) $-5 + (-11) = -16$												
c) The sum of positive three and negative twenty, then multiplied by negative two	c) $(3 + (-20))(-2) = (-17)(-2) = 34$												
2) Insert $<$ or $>$ or $=$ to make each statement true:	2)												
a) $(-7)^2$ ___ $(6)^2$	a) $>$												
b) $(123)^3$ ___ $(-123)^3$	b) $<$												
c) $(-45)^2$ ___ $(45)^2$	c) $=$												
3) True or false?	3)												
a) $(-4)^2 = (-2)^2$	a) False												
b) $(-6)(7) = 6(-7)$	b) True												
c) $-16 + 4 = 16 - 4$	c) False												
d) $\frac{-12}{-2} = \frac{12}{2}$	d) True												
e) $4(-15) = 15 - 4$	e) False												
4) Will the answer be positive or negative or zero?	4)												
a) $(-1)^3 - 1$	a) Negative												
b) $(-1)^2 + (-1)^3 + (-1)^2$	b) Positive												
5) Copy and complete the flow diagram:	5)												
	<table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>10</td> <td><b>30</b></td> </tr> <tr> <td>1</td> <td><b>-15</b></td> </tr> <tr> <td><b>0</b></td> <td>-20</td> </tr> <tr> <td>-10</td> <td><b>-70</b></td> </tr> <tr> <td><b>-8</b></td> <td>-60</td> </tr> </tbody> </table>	Input	Output	10	<b>30</b>	1	<b>-15</b>	<b>0</b>	-20	-10	<b>-70</b>	<b>-8</b>	-60
	Input	Output											
	10	<b>30</b>											
	1	<b>-15</b>											
	<b>0</b>	-20											
	-10	<b>-70</b>											
<b>-8</b>	-60												
6) Evaluate:	6)												
a) $(4 - 11)(5 + 9) =$	a) -98												
b) $1(-2) - 3(-4) + 5(-6) =$	b) -20												
c) $-7 + 8(-2) + 3 =$	c) -20												
d) $-7 - 8 - (8 + 4) - 3 =$	d) -30												

## Worksheet 14

In this task you will:

- Write product number sentences
- Work with squares, cubes, square roots and cube roots
- Work with mixed operations

No calculators!

### Questions

1) Write a number sentence and determine the following products:

- Positive five multiplied by negative eight
- Negative six multiplied by negative four
- Negative four multiplied by positive two
- Five multiplied by negative four multiplied by positive three

2) Evaluate the following:

- $(-3)^2$
- $(4)^2$
- $(-2)^3$
- $(-2)^3 + (-3)^2$

3) True or false?

- $(-2)^3 = (-3)^2$
- $(-6)(4) = 6(-4)$
- $-6 + 4 = 6 - 4$
- $(-2)(-6) = 2(6)$
- $4(-3) = 4 - 3$

4) Will the answer be positive or negative or zero?

- $4 - \sqrt{16}$
- $-\sqrt[3]{27}$
- $\sqrt{50} - \sqrt{60}$

5) Calculate:

- $-4 \times 2(-1)$
- $6(-2)(4)$
- $6 - 2(4)$
- $-2(-4) \times (-6)$
- $2(4)(-6)$
- $\frac{6(-2) + 4}{4}$
- $\frac{6 - 2}{4} - \frac{-4}{4}$

**Worksheet 14**
**Answers**

Question	Answers
1) Write a number sentence and determine the following products:	1)
a) Positive five multiplied by negative eight	a) $5(-8) = -40$
b) Negative six multiplied by negative four	b) $(-6)(-4) = 24$
c) Negative four multiplied by positive two	c) $-4(2) = -8$
d) Five multiplied by negative four multiplied by positive three	d) $5(-4)3 = -60$
2) Evaluate the following:	2)
a) $(-3)^2$	a) 9
b) $(4)^2$	b) 16
c) $(-2)^3$	c) -8
d) $(-2)^3 + (-3)^2$	d) 1
3) True or false?	3)
a) $(-2)^3 = (-3)^2$	a) False
b) $(-6)(4) = 6(-4)$	b) True
c) $-6 + 4 = 6 - 4$	c) False
d) $(-2)(-6) = 2(6)$	d) True
e) $4(-3) = 4 - 3$	e) False
4) Will the answer be positive or negative or zero?	4)
a) $4 - \sqrt{16}$	a) Zero
b) $-\sqrt[3]{27}$	b) Negative
c) $\sqrt{50} - \sqrt{60}$	c) Negative
5) Calculate:	5)
a) $-4 \times 2(-1)$	a) 8
b) $6(-2)(4)$	b) -48
c) $6 - 2(4)$	c) -2
d) $-2(-4) \times (-6)$	d) -48
e) $2(4)(-6)$	e) -48
f) $\frac{6(-2) + 4}{4}$	f) -2
g) $\frac{6-2}{4} - \frac{-4}{4}$	g) 2