

Stage (9-12)

## Worksheet 2 |

1<sup>st</sup> Semester | 2023-2024

Grade 9 IG

Subject: Math

Chapter: Number 4, Number 5

Objectives:

- To review compound percentages, inverse percentages, calculators, estimating, rounding upper and lower bounds.

Date:

Name:

### Questions

Q1.

Jenny invests \$8500 for 3 years in a savings account.  
She gets 2.3% per year compound interest.

(a) How much money will Jenny have in her savings account at the end of 3 years?

Give your answer correct to the nearest dollar.

\$ .....

(3)

Rami bought a house on 1<sup>st</sup> January 2015

In 2015, the house increased in value by 15%

In 2016, the house decreased in value by 8%

On 1<sup>st</sup> January 2017, the value of the house was \$687 700

(b) What was the value of the house on 1<sup>st</sup> January 2015?

\$ ..... (3)

**(Total for question = 6 marks)**

**Q2.**

On 1<sup>st</sup> January 2016 Li bought a boat for \$170 000

The value of the boat depreciates by 8% per year.

Work out the value of the boat on 1<sup>st</sup> January 2019

Give your answer correct to the nearest dollar.

\$ .....

**(Total for question = 3 marks)**

**Q3.**

Josh buys and sells books for a living.

He buys 120 books for £4 each.

He sells  $\frac{1}{2}$  of the books for £5 each.

He sells 40% of the books for £7 each.

He sells the rest of the books for £8 each.

(a) Calculate Josh's percentage profit.

..... %  
(5)

One book that Josh owns had a value of £15 on the 1<sup>st</sup> May 2019  
The value of this book had increased by 20% in the last year.

(b) Find the value of the book on the 1<sup>st</sup> May 2018

£ .....  
(3)

**(Total for question = 8 marks)**

**Q4.**

Gopal is paid 20 000 rupees each month.  
Jamuna is paid 19 200 rupees each month.

Gopal and Jamuna are both given an increase in their monthly pay.  
After the increase, they are both paid the same amount each month.

Gopal was given an increase of 8%

Work out the percentage increase that Jamuna was given.

..... %

**(Total for question = 4 marks)**

**Q5.**

Chao bought a boat for HK\$160 000  
The value of the boat depreciates by 4% each year.

- (a) Work out the value of the boat at the end of 3 years.  
Give your answer correct to the nearest HK\$.

HK\$ .....  
(3)

Jalina gets a salary increase of 5%  
Her salary after the increase is HK\$252 000

- (b) Work out Jalina's salary before the increase.

HK\$ .....  
(3)

**(Total for question = 6 marks)**

**Q6.**

$$C = b - a$$

$a = 6$  correct to the nearest integer

$b = 15$  correct to the nearest 5

Work out the upper bound for the value of  $C$   
Show your working clearly.

.....

**(Total for question = 3 marks)**

**Q7.**

$$P = \frac{a}{m - x}$$

$x = 8$  correct to 1 significant figure

$a = 4.6$  correct to 2 significant figures

$m = 20$  correct to the nearest 10

Calculate the lower bound of  $P$ .  
Show your working clearly.

.....

**(Total for question = 4 marks)**

**Q8.**

$e = 8.31$  correct to 2 decimal places

$f = 0.65$  correct to 2 decimal places

Work out the lower bound for the value of  $e - f$   
Show your working clearly.

.....

**(Total for question = 2 marks)**

**Q9.**

(a) Use your calculator to work out the value of

$$\frac{24.3 - 16.8}{0.18} + \sqrt{67.4}$$

Write down all the figures on your calculator display.

.....

(2)

(b) Write your answer to part (a) correct to 1 significant figure.

.....

(1)

**(Total for question = 3 marks)**

**Q10.**

(a) Work out the value of  $\frac{10.4}{5.1 - 2.7} + \frac{6.8 - 3.2}{9.5}$

Give your answer as a decimal.

Write down all the figures on your calculator display.

.....  
(2)

(b) Give your answer to part (a) correct to 3 significant figures.

.....  
(1)

**(Total for question = 3 marks)**