

## Grade 9 Mathematics Worksheet

---

### Financial maths 3

#### Questions:

1. Jenny works at the CD store on weekends to earn pocket money. She gets paid a basic salary of R15 per hour and then she gets a commission of 6% on all the sales that she makes.
  - a) If she works for 16 hours on the weekend, and earns a salary of R840 for the weekend, how much worth of stock did she sell?
  - b) If she gets paid a lower hourly rate of R12 per hour, what must her commission percentage be so that she takes home the same amount per weekend for R10 000 sales?
  - c) Andrew works in the store room and works 8 hour shifts for a five day week. He earns R960 per week with no commission. Write an equation that represents the direct variation between  $x$  (the number of hours worked) and  $y$  (his weekly earnings).
2. Bongani wants to invest R12 000 for a period of two years. He has one of the following choices:
  - i) 12% per annum compound interest
  - ii) 14% per annum simple interest

Which investment option will be the better one?
3. While visiting Tokyo, Tanya spent 475 980 Japanese Yen for a string of fresh water pearls. This was equivalent to R40 074, 80. How many Japanese Yen could one buy for R2 000 at the time of Tanya's purchase?

## Grade 9 Mathematics Worksheet

### Solution

1. a) Her payment for the weekend is R840. This makes up for 16 hours of work. Thus  $16 \times 15 = R240$ . The 6% commission for the stock she sold came to an amount of R600. Assuming she sold  $x$  of stock:

$$6\% \text{ of } x = R600 \rightarrow x = \frac{600 \times 100}{6} = R10000.$$

- b)  $12 \times 15 = R180$ . She needs to take home R840, so she must get R660 in commission.

$$x\% \text{ of } 10000 = R660 \rightarrow x = \frac{660}{10000} = 6,6\%$$

- c)  $\frac{960}{40} = R24$  per hour. So  $y = 24x$ .

2. For 12% per annum compound interest:

$$A = 12000 \left(1 + \frac{12}{100}\right)^2 = R15052,80$$

For 14% per annum simple interest:

$$A = 12000 \left(1 + \frac{14}{100} \times 2\right) = R15360$$

He should invest the money at 14% per annum simple interest.

3.  $475980 \text{ yen} = 40074,80 \text{ rand}$

$$\therefore 1 \text{ Yen} = \frac{40074,80}{475980} = 0,08419 \text{ rand}$$

$$\text{So: } \frac{2000}{0,08419} = 23754,58 \text{ yen could be bought with R2 000.}$$

It is important that learners also experience questions where the input is not given. In this question the output of R840 is given, and learners have to find the amount of stock that was sold.

Learners need to compare the rates. Make sure that they don't pick 14% because it is higher than 12%. They should also have a clear understanding of when the one rate becomes more profitable than the other. So here it might be a good idea to use a graph as a tool for exploring the growth. Remember that these graphs are not continuous graphs.

Because of the strength of the Rand against the Yen in the question, the Rand values are more. They appear to be less and the context needs to be discussed with learners.