



BUKIT SION MIDDLE SCHOOL
ACADEMIC YEAR 2016-2017

MID-SEMESTER EXAMINATION

Where the abundance in life flows.....

NAME

NUMBER

GRADE

ROOM NUMBER

MATHEMATICS

Grade 7
Semester 2
27 March 2017
120 minutes

Additional Materials:

Calculator

READ THESE INSTRUCTIONS CAREFULLY!

Write your name and grade on all the work you hand in.

Do all your working on the space provided in each question.

Write in dark blue or black pen.

You may use calculator.

Do not use correction tape.

SECTION	MARKS
A	/60
B	/40
TOTAL	/100

SECTION A: (60 MARKS)

Answer all questions. Show necessary working to questions with 2 marks or more.

1. (a) What is 40% of 75?

Answer: _____ [1]

(b) 5.5 is 22% of what number?

Answer: _____ [1]

(c) 40 is what percent of 16?

Answer: _____ [1]

2. Alvin works for 6 days and is paid \$153.

How much will he be paid for working 9 days at the same rate?

Answer: _____ [2]

3. Carol deposits \$800 in a bank that offers simple interest of 3% per annum.

How much total amount will she have at the end of 3 years?

Answer: _____ [3]

4. The ratio of 750m and 3km in simplest form is:

Answer: _____ [2]

5. (a) How many percent does the shaded region represent?



Answer: _____ [1]

(b) Write 125% in a fraction in lowest terms.

Answer: _____ [1]

6. The cost price of a pack of coffee has been increased by a profit of 35%.

If the original price was \$40, calculate its selling price.

Answer: _____ [2]

7. A car traveled for 4 hours at 75 km/h. Find the distance traveled in this journey.

Answer: _____ [1]

8. Given that y is inversely proportional to x , and that $y = 4$ when $x = 5$,

find the value of y when $x = 2$.

Answer: _____ [2]

9. The selling price of an article is \$120. If this price already included a 7%-sales tax, find the original price of the said article, correct to 2 decimal places.

Answer: _____ [2]

10. Given that y is directly proportional to x and that $y = 10$ when $x = 2$, find the equation that relates y and x .

Answer: _____ [2]

11. A man brought US\$2500 to Indonesia on a vacation.

He exchanged his money when the rate was US\$1 = Rp 12 000.

He spent 74% of his money during his stay and exchanged the remaining amount back to US\$ at the rate of US\$1 = Rp 12 500. How many US\$100 dollars did he receive?

Answer: _____ [4]

12. A school has 220 boys and 280 girls.

- (a) Write the ratio of the boys to the girls in simplest form.

Answer: _____ [1]

- (b) The ratio of the number of teachers to the number of students is 1:10.
Find the number of teachers in the school.

Answer: _____ [2]

- (c) There are 56 students in the school's committee.
The ratio of boys to girls in the committee is 3:4.
Find the number of girls in the committee.

Answer: _____ [2]

- (d) If 20% of students in the school are in Year 7 and that 25% of the boys are in Year 7, find the number of girls in Year 7.

Answer: _____ [2]

- (e) Write the number of boys as a percentage of the total number of students in the school?

Answer: _____ [1]

13. A car is sold using Hire Purchase System by paying a downpayment of 25% of the car's selling price. If the selling price of a car is Rp 280 000 000, how much downpayment should be paid?

Answer: _____ [2]

14. On a map whose scale is 5 cm to 4 km.

The distance between two places A and B is 6 cm and the area of the forest F is 40 cm^2 .

(a) Express the scale 1 cm to 4 km in the form $1 : n$.

Answer: _____ [2]

(b) Calculate the actual distance of AB in metres.

Answer: _____ [2]

(c) Calculate the actual area of the forest in km^2 .

Answer: _____ [2]

15. Given that y is inversely proportional to $(x + 7)$ and that $y = 2$ and $x = 3$, find the value of y when $x = 1$ and the value of x when $y = 5$.

Answer: _____ [3]

16. Moly works an estate agent and earns a monthly basic salary \$9000, plus an 8%-commission on whatever sales that he can make.

(a) How much total salary did Moly receive in January?

Answer: _____ [2]

(b) If in February, she received a total salary of \$15 0000, how much sales did he make in February.

Answer: _____ [3]

17. **In 2008**, the total number of tickets sold for an athletics meeting was 3136.

The ratio of the number of children tickets sold and to the number of adults tickets sold was 17 : 32.

(a) How many children tickets were sold?

Answer: _____ [2]

(b) How many adult tickets were sold?

Answer: _____ [1]

(c) Child tickets were sold at \$2 each while adult tickets cost \$4.50.
How much total amount of was received from the sale of all the tickets?

Answer: _____ [2]

(d) **In 2009**, the amount received from the sale of tickets for the athletics meeting was \$12 748. Calculate the percentage change in the amount received from 2008 to 2009, express your answer correct to 3 significant figures.

Answer: _____ [2]

(e) The number of tickets sold in 2008 was an increase of 60% from the number of tickets sold in 2007. Find the number of tickets sold in 2007.

Answer: _____ [1]

18. A man bought 20 books for \$100.

- (a) Write the above quantities as a rate.

Answer: _____ [1]

- (b) If 15 books were sold at \$7 each and the rest are sold at \$4 each, find the total profit of the man.

Answer: _____ [2]

SECTION B: 40 MARKS

ANSWER ALL THE QUESTIONS BY SHOWING COMPLETE WORK.
MARKS MAY BE DEDUCTED FOR NOT SHOWING NECESSARY STEPS.

1. A sum of \$360 is shared among 3 people in the ratio 2 : 3 : 7.
Calculate the difference between the largest and the smallest shares.

Answer: _____ [2]

2. The air fare from Singapore to Stockholm can be paid for in Singapore dollars or in Malaysian ringgit. One day, the fare was S\$740 or RM 1900 and the exchange rate was S\$1 = RM2.448.

Which currency is cheaper and **by how much**?

Answer: _____ [3]

3. Given that y is directly proportional to x^3 and that $y = 24$ when $x = 2$.

(a) Write the equation of y in terms of x .

Answer: _____ [2]

(b) Find the value of y when $x = 5$.

Answer: _____ [1]

(c) Find the value of x when the value of $y = 10\frac{1}{8}$.

Answer: _____ [2]

4. A man drove for 2 hours at a speed of 36 km/h on the first part of the journey, at 60 km/h for 1 hour on the second part of his journey and at 50 km/h for 1 $\frac{1}{2}$ hours on the third part of his journey.

Find the average speed of his entire journey.

Answer: _____ [4]

5. Michael is buying and selling foreign currencies.
Yesterday, he exchanged \$600 to pounds when the rate was £1 = \$2.40.
Later, he changed back all his pounds into dollars when the exchange rate was £1 = 2.60

Find his **percentage profit**.

Answer: _____ [3]

6. Carlos buys a motor scooter for \$1200.
Each year the value of the scooter decreases by 10% of its value at the beginning of that year.

Find the value of the scooter after 3 years.

Answer: _____ [3]

7. Chris goes to a shop to buy meat, vegetables and fruits.

- (a) The **cost** of the meat, vegetables and fruit are in the ratio 2 : 3 : 3.
The cost of the meat is \$2.40.

(i) Calculate the **total cost** of the meat, vegetables and fruit.

Answer: _____ [2]

- (ii) Chris pays with a \$20 note.
What percentage of the \$20 has he spent?

Answer: _____ [1]

- (b) The **masses** of the meat, vegetable and fruit are in the ratio 1 : 8 : 3.

The total mass is 9 kg.
Calculate the **mass of the vegetables**.

Answer: _____ [2]

- (c) Calculate the **cost per kilogram** of the fruit.

Answer: _____ [2]

8. Steve Brothers Company offers a salary increase to its employees in the following schemes.

Scheme A: An increase of 6% of the present salary.

Scheme B: An increase of 2% of the present salary + \$150 transportation fee.

Mr Sim earns \$3500 per month while Mr Lie earns \$8900 per month.
Which scheme should each choose?

Show your complete calculations.

[3]

9. Beatrice has an income of \$40 000 in one year.

She pays:

no tax on the first \$10 000 of her income
10% tax on the next \$10 000 of her income
25% tax on the rest of her income.

(a) Calculate the income tax Beatrice pays.

Answer: _____ [3]

10. The cash price of a new luxury car is \$81 000.

It can also be bought through hire purchase terms with the following conditions:

Downpayment: \$6000

Balance: 3% simple interest for 6 years

(a) Calculate the monthly instalment and express your answer to the nearest cent.

Answer: _____ [4]

(b) Find the **percentage difference** between the **cash price** and the **hire purchase price** of the car.

Answer: _____ [1]