Paper 2 (50 marks)

Answer all the questions. You may use a calculator for this paper.

1. Use a calculator to evaluate each of the following.

   (a) $[(27.48 + 69.71) \div 0.1] - 85.63$

   (b) $1\frac{2}{3} + 6\frac{1}{8} \div \left(-2\frac{1}{5}\right)$

   (c) $\left(-\frac{1}{2}\right)^2 \times \sqrt{\frac{1}{4}}$

Ans: (a) _____ [2]

(b) _____ [2]

(c) _____ [2]

2. Given that $a : b = \frac{1}{2} : \frac{1}{3}$ and $a : c = \frac{1}{3} : 1$, find $a : b : c$.

Ans: _____ [3]

3. Teck Ming's monthly allowance is \$250. He spends 40% of it on food, $\frac{1}{3}$ of the remainder on transport, \$25 on leisure activities and saves the rest. Calculate
   (a) the amount he spends on food,
   (b) the amount he spends on transport,
   (c) the percentage of his pocket money that he saves.

Ans: (a) _____ [2]

(b) _____ [2]

(c) _____ [2]

4. The table below shows the prices of fresh seafood in a supermarket.

Fish	\$0.99 per 100 grams
Cuttlefish	\$0.49 per 100 grams
Crabs	\$10.90 per kilogram
Prawns	\$1.69 per 100 grams

Mrs Foo bought 1.6 kg of fish, $\frac{1}{2}$ kg of cuttlefish, 3 kg of crabs and 1.2 kg of prawns. If she gave the cashier \$100, how much change did she receive? Round off your answer to the nearest ten cents.

Ans: _____ [4]

5. A shopkeeper bought a carton of oranges for $25.80. There were 100 oranges in the carton but 7 of them were rotten.
   (a) Find the cost price of each orange, to the nearest cent.
   (b) Calculate the percentage profit the shopkeeper made if he sold all the oranges at 3 for $1.

Ans: (a) _____ [2]

(b) _____ [3]

6. A 1500 m*l* bottle of mineral water is poured equally into 8 cups.

(a) Find the amount of water in m*l*, in each cup.

(b) If each cup is only $\frac{5}{6}$ full, calculate the total capacity of the 8 cups.

(c) If each of the 8 cups is filled to its brim, what percentage of another 1500 m*l* bottle of mineral water is needed?

Ans: (a) _____ [2]

(b) _____ [3]

(c) _____ [2]

7. (a) Mr Lee left an inheritance of $250 000 to his 3 children in the ratio 1 : 3 : 4. Calculate
   (i) the smallest share, and
   (ii) the largest share.

   (b) The ratio of the number of boys to the number of girls to the number of teachers in a school is 8 : 6 : 1. If there are 420 girls, calculate the number of
   (i) teachers, and
   (ii) boys.

Ans: (a)(i) _____ [2]

(ii) _____ [1]

(b)(i) _____ [1]

(ii) _____ [2]

8. (a) Arrange the following in descending order.

$-2, \sqrt[3]{3}, 0.2^2, 0.3^3, -\sqrt{\frac{2}{3}}$

(b) Find the largest perfect square which is smaller than 270.

(c) Given that $x < 12$, write down

(i) the values of x that are multiples of 4, and

(ii) the values of x that are factors of 36.

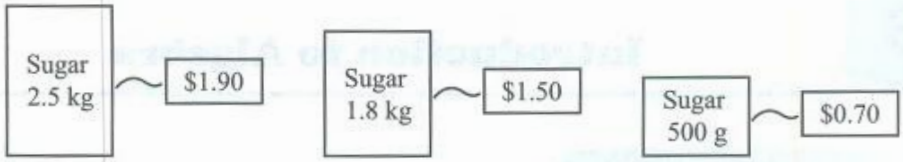
Ans: (a) _____ [2]

(b) _____ [2]

(c) (i) _____ [1]

(ii) _____ [1]

9. Sugar is sold in 3 different types of packaging.



(a) By showing your calculations clearly, determine which is the most worthwhile packaging to buy.

(b) During a promotion, each 1.8-kg packet of sugar is bundled with a 500-g packet and sold for $1.70.
If Mrs Tang needs at least 2 kg of sugar, which should she buy – the 2.5 kg packet or the promotion pack? Show your working clearly.

Ans: (a) _____ [4]

(b) _____ [3]