F.2 Mathematics Worksheet 1
Ch.1 Estimation and Approximation
_____

1. Estimate the values of the following expressions and state the strategies used.
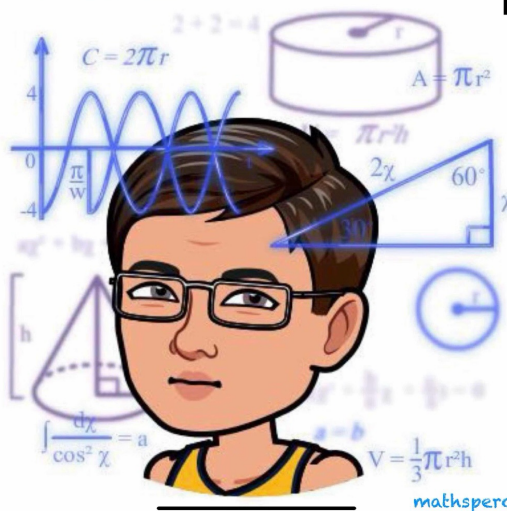
   (a) $593+119+204+175+682+123+287$ **(b)** 44.033×0.2517

   (c) $(0.297\times6\ 800)\div30.014$ **(d)** $87.96+121.93+19.3+40.6-59.8-31.9$

   (e) $-0.0379-0.0407-0.0421-0.0371-0.0413$

2. Determine whether the following expressions are reasonable.

   (a) $12.985 \times (300 \div 65.03) \approx 6$ 　　　　　　　**(b)** $450.19 + 50.017 \times 0.197 - 29.91 \times 0.334 \approx 20$

   (c) $40.94 + 62.15 - 21.36 + 78.03 - 30.83 + 141.5 \approx 170$ 　**(d)** $5695 \times \dfrac{200}{5.98} \approx 19000$

3. Complete the following.

   (a) $63749 = $ _____ (corr. to 3 sig. fig.) 　　**(b)** $0.0978 = $ _____ (corr. to 1 sig. fig.)

   (c) $90507 = $ _____ (corr. to 2 sig. fig.) 　　**(d)** $0.10499 = $ _____ (corr. to 4 sig. fig.)

4. Complete the following.

   (a) $87460 = 87000$ (corr. to _____ sig. fig.) 　　**(b)** $2.543 = 2.5$ (corr. to _____ sig. fig.)

   (c) $1.88 = 2$ (corr. to _____ sig. fig.) 　　　　　**(d)** $0.01487 = 0.0149$ (corr. to _____ sig. fig.)

5. Find the values of the following expressions, correct to 3 significant figures.

   (a) $45.67 + 303.4 - 10.5 \ = $ _____ (corr. to 3 sig. fig.)

   (b) $0.63 \times 109.52 \ = $ _____ (corr. to 3 sig. fig.)

   (c) $1.936 \div 66.7 \ = $ _____ (corr. to 3 sig. fig.)

6. There are 28 pages in a grid book with 13 rows each page and 15 grids each row.   Estimate whether the total number of grids of 50 grid books is more than 90 000.   Explain briefly.

7. **(a)** Ray is going to buy 50 cans of soft drinks for $ 5.2 each.   If a stamp will be given for every purchase of $ 50, estimate whether Ray can get 5 stamps.

(b) (i) In a promotional event, a pack of 8 cans of soft drinks is sold at $34.8 while the price of a can of soft drink remains unchanged.   How many packs of soft drinks and individual cans should Ray buy so that he can pay the least?   How much should he pay?

(ii) If Ray buys the soft drinks in the way in **(b)(i)**, estimate whether Ray can get 5 stamps. Explain briefly.

8. A certain brand of rice is available in packs of 1 kg, 2 kg and 5 kg, and their prices are $ 13.6, $ 25.9 and $ 65.6 respectively.

  (a) Find the average prices per kg of rice for 2 kg and 5 kg packaging respectively. (Give your answer correct to 3 significant figures if necessary.)

  (b) From the result of **(a)**, which packaging of rice is the most economical?