DCM100 Teaching and Learning of Primary Mathematics I
A Collection of Problems

Whole Numbers

1. Alice, Jude and Grace settled a bill of $97.50 together after a buffet lunch. Alice paid thrice as much as Grace and Jude paid twice as much as Alice. How much did Alice and Grace each have to return Jude if they were to bear the cost of the lunch equally?

2. Tom, Ken and Rick donated a total of $1,648 to charity. Ken donated $48 more than Tom. Rick donated four times as much money as the total sum donated by Tom and Ken. How much money did Rick donate to charity?

3. The total number of passengers in a plane is 840. There are 223 women. The number of men is twice the total number of women and children. If the number of boys is half the number of girls, how many girls are there in the plane?

4. Ali, Alice and Meimei bought a present which cost $48 for their teacher. Meimei paid $7.45. Ali paid five times the total amount paid by Meimei and Alice. How much must Meimei and Alice each give to Ali if they were to share the cost of the present equally?

5. A packet of sweets is to be shared among a group of children. If each child gets 3 sweets, there will be 2 sweets left. If each child gets 4 sweets, there will be 3 sweets short.
   (a) How many children are there in the group?
   (b) How many sweets are there in the packet?

6. Mr Lim bought a total of 50 goldfish and angel fish. Each goldfish costs $6. Each Angel fish costs $5. If the total cost of the goldfish is $47 more than the angel fish,
   (a) How many goldfish did Mr Lim buy?
   (b) Find the total cost of the angel fish he bought.

7. Joanne has a total of 36 wires and strings. Each wire is 4cm long and each string is 3cm long. The total length of the wires is 25 cm longer than the total length of the strings. How many more wires than strings has she?

8. Vincent has a total of 300 pieces of $2 and $5 notes. The total value of the $5 notes is $296 more than the total value of the $2 notes. Find the total value of all the 300 notes.
9. A number of sweets were given to 98 children. Each boy was given 3 sweets. Each girl was given 8 sweets. The girls received a total of 344 sweets more than the boys. How many more girls than boys were there?

10. The total number of pearls on some necklaces is 2400. There are 60 pearls on each short necklace and 20 more pearls on each long one. There are 5 fewer long necklaces than short ones. What is the total number of pearls on all the long necklaces?

11. The total number of cows and ducks in a farm is 35. The cows together have 74 more legs than all the ducks. How many cows are there in the farm?

12. A transport company charges Mr Tan $3 for each flower pot safely delivered but had to pay Mr Tan $27 for every pot damaged in the process of delivery. If Mr Tan paid a total of $11,730 to the transport company for the delivery of 4,000 flower pots, how many of the flower pots were damaged during delivery?

13. Kenneth sat for a quiz in which he had to answer 70 questions. 5 marks were awarded for every correct answer and 2 marks were deducted for every wrong answer. Kenneth scored a total of 182 marks for the quiz. How many mistakes did he make?

14. Mr Yee sold a total of 120 shirts yesterday. He cleared his old stocks at a loss of $3 for each shirt and sold each new shirt at a profit of $27. He made an overall profit of $2250 yesterday. How many shirts did he sell at a loss?

15. A shipping company transported 600 parcels for Mr Cheng from Singapore to London. It charged $25 for each parcel safely transported, but had to pay Mr Cheng $75 for every damaged parcel. Mr Cheng paid a total of $14 500 to the shipping company. How many of his parcels were safely transported?

16. There are 8 rows of chairs with 8 chairs in each row. Miss Chong wants to rearrange all the chairs, equally spaced, to form the perimeter of a square. She wants the same number of chairs on each side of the square. How many chairs will there be on each side of the square?

17. There were 7 rows of chairs with 16 chairs in each row. Mr Lim rearranged the chairs, equally spaced, to form the perimeter of a square which had the same number of chairs on each side. How many chairs were there on each side of the square?
18. 8 rows of tables with 9 tables in each row were rearranged, equally spaced, to form the perimeter of a square which had the same number of tables on each side. How many tables were there on each side of the square.

19. 12 stacks of coins with 22 coins on each stack were used to form the perimeter of a square which had the same number of coins on each side. The coins are arranged individually and are equally spaced. How many coins were there on each side of the square?

20. In a quiz, there is a total of 80 questions. For every correct answer, 4 marks were awarded. 2 marks were deducted for every wrong answer. May scored a total of 152 marks for the quiz. How many questions did she answer correctly?

**Fractions**

21. There are 540 notes in a safe. 43 of the notes are $5 notes, 275 of them are $2 notes, some of them are $1000 notes and the remaining \( \frac{2}{9} \) of the notes are $50 notes. What is the total value of the $1000 notes in the safe?

22. Andy brought $9800 on a tour. He spent $2090 in Australia, $3985 in New Zealand and some money in Malaysia. After that, he had \( \frac{3}{8} \) of his money left. How much money did he spend in Malaysia?

23. There are 540 notes in a safe. 43 of the notes are $5 notes, 275 of them are $2 notes, some of them are $1000 notes and the remaining \( \frac{2}{9} \) of the notes are $50 notes. What is the total value of the $1000 notes in the safe?

24. Andy brought $9800 on a tour. He spent $2090 in Australia, $3985 in New Zealand and some money in Malaysia. After that, he had \( \frac{3}{8} \) of his money left. How much money did he spend in Malaysia?

25. There were 520 people in a theatre. \( \frac{1}{3} \) of the male audience and \( \frac{3}{7} \) of the female audience are children. There is an equal number of male and female adults. How many women are there in the theatre?
26. On a table, there are 98 apples and oranges. \( \frac{5}{8} \) of the apples and half of the organs are peeled. There is an equal number of unpeeled apples and oranges. How many more apples than oranges are there on the table?

27. A farmer has a total of 750 chickens and ducks. He sold half of the ducks and bought another 90 chickens. After which, the number of chickens he had was \( \frac{1}{3} \) the number of ducks. How many chickens and how many ducks had he at first?

28. Jill and Rick had a total of 90 fish. Jill gave \( \frac{1}{4} \) of her fish to Rick. Rick then gave \( \frac{2}{5} \) of the total number of fish he had to Jill. In the end, each of them had the same number of fish. How many fish had each child at first?

29. There are 38 big and small balls in a basket. \( \frac{2}{7} \) of the big balls is equal to \( \frac{1}{6} \) of the small balls. Each big ball weighs 4.5kg. Each small ball weighs 3.2kg. What is the total weight of all the balls in the basket?

30. Ron’s age is \( \frac{1}{5} \) that of his aunt’s. His aunt will be 29 years old in 9 years’ time. In how many years’ time will Ron’s age be \( \frac{4}{5} \) that of his aunt’s?

31. 910 people participated in a 5-km walkathon. \( \frac{3}{5} \) of the female participants and \( \frac{1}{4} \) of the male participants were children. There were thrice as many men as women. How many adults participated in the walkathon?

32. Peter and Amos had a total of $240. Peter gave \( \frac{2}{5} \) of his money to Amos. Amos then gave \( \frac{3}{7} \) of the total amount of money he had to Peter. In the end, each of them had the same amount of money. How much money had each man at first?

Dr Ng Wee Leng

MME
Decimals

33. There are a total of 81 pieces of 50-cent, 10-cent and 5-cent coins in a tin. There are 3 more 10-cent coins than 50-cent coins. The number of 5-cent coins is twice the total number of 50-cent and 10-cent coins. How much do all these coins add up to?

34. Tracy paid $174 for 7 pens and 4 staplers. Each pen costs 8 times as much as a stapler. Find the difference in cost between a pen and a stapler.

35. Evoone paid $8.10 for 7 exercise books and 5 rulers. The total cost of an exercise book and a ruler was $1.30. Tom had $7.90. He bought 8 exercise books and used the rest of his money to buy rulers. How many rulers did he buy?

36. Lily paid $23.80 for 7 cheese cakes and 12 buns. The total cost of a cheese cake and a bun was $3.40. Jim bought 2 cheese cakes and 4 buns. How much change would he receive if he paid the cashier $20?

37. Ron is a car agent. He receives a fixed salary each month. He also receives a commission of $0.03 for every $3 of sales he makes. In a 5-month period, the total value of the cars he sold was $240,000. If his total earnings for this period was $8,900, find his monthly salary.

38. A typist is paid $2 for every 400 words she types. She receives a bonus of $2 for every 2000 words she types. How many words must she type to earn $160?

39. A wholesaler charges his customers $9 for each pen. He gives a discount of $50 for every bulk purchase of 150 pens. Mr Lim paid the wholesaler $2,200. How many pens did he buy from the wholesaler?

40. Mr Heng used 3 bottles of syrup to make drinks. Each bottle contained 5 litres of syrup. He added 3 litres of water to every litre of syrup and sold the drinks in packets of 500ml each. Each litre of syrup cost $2.80. If he made a total profit of $198, how much did he sell each packet of drink for?