Primary Six
Mathematics
Semestral Assessment One

Section A (5 x 1 marks) (10 x 2 marks)
For the following questions, choose the correct answer and write it in the space given.

1. 18.05 kg is the same as _____ g.
   (1) 180.5   (2) 1805
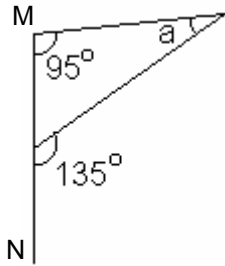   (3) 18050   (4) 180500

2. What percentage of $20 is $5?
   (1) 25 %   (2) 50 %
   (3) 250 %   (4) 400 %

3. Which of the following is the same as $^5/_7 \div 3$.
   (1) $^5/_7$ x $^1/_3$ (2) $^7/_5$ x $^1/_3$
   (3) $^5/_7$ x 3   (4) $^7/_5$ x 3

4. Which of the following is the best estimate for $8\,^7/_{10}$ x $4\,^{49}/_{100}$?
   (1) 32   (2) 36
   (3) 45   (4) 84

5. A man paid $40 for 192 oranges. 12 of them were bad and he threw them away. If he sold the remaining oranges at 3 for $1, how much money did he make?
   (1) $20   (2) $24
   (3) $40   (4) $60

6. The figure below is not drawn to scale. MN is a straight line. Find ∠a.

(1) 35°   (2) 40°
(3) 45°   (4) 50°

7. The ratio of Lily's money to Janet's money is 3 : 5. Express Janet's money as a fraction of the total sum of money.
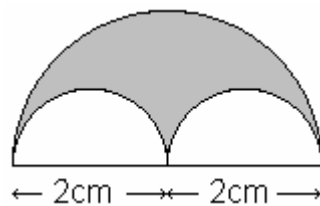(1) $\frac{3}{5}$ (2) $\frac{5}{3}$
(3) $\frac{3}{8}$ (4) $\frac{5}{8}$

8. Alicia is 6 years older than her brother. In 3 years' time, her brother will be $\frac{3}{5}$ as old as her. How old is Alicia now?
(1) 9 years   (2) 12 years
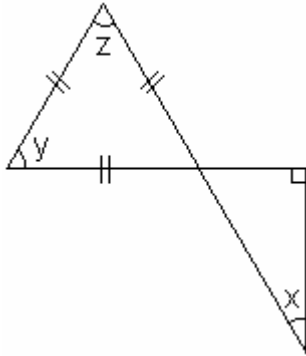(3) 15 years   (4) 18 years

9. The figure below is made up of 3 semi-circles. Find the perimeter of the shaded part.

← 2cm →←— 2cm —→

(1) 2 π cm   (2) 4 π cm
(3) ($\frac{1}{2}$ π + 2) cm   (4) (4π + 2) cm

10.

In the above figure, ∠x + ∠y + ∠z = _____.
(1) 120°   (2) 150°
(3) 180°   (4) 210°

11. Alfred and Carrie have the same number of stamps. If Carrie gives $^1/_5$ of her stamps to Alfred, what will be the new ratio of the number of stamps Alfred has to the number of stamps Carrie has?
(1) 4 : 1   (2) 2 : 3
(3) 1 : 4   (4) 3 : 2

12. The cost price of a photo album is $6. The selling price is 30% more than the cost price. What is the selling price of the photo album?
(1) $1.80   (2) $4.20
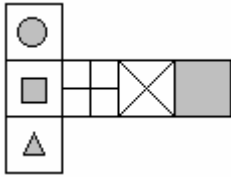(3) $6.30   (4) $7.80

13. Sam started cycling from his house at 8:40am. He reached his friend's house at 9:10 am. If his average speed was 15km/h, how far did he travel?
(1) ½ km   (2) 5 km
(3) 7 ½ km   (4) 10km

14.

Which of the following solids can be formed from the net above?
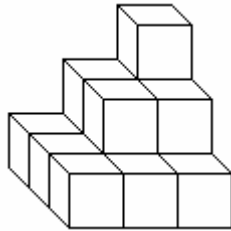
(1)

(2)

(3)

(4)

15. The solid below is made up of 2-cm cubes. What is the volume of the solid?

(1) 72 cm^2

(2) 84 cm^2

(3) 112 cm^2

(4) 168 cm^2

Section B (20 x 1 mark)
For the following questions, read the questions carefully and write your answer in the space provided.

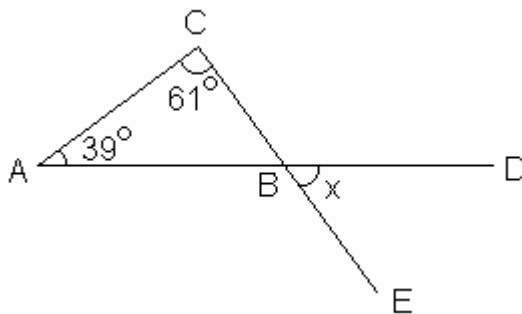16. Express 0.08 as a fraction in its simplest form.

17. If $^p/_8 = {}^{12}/_{32}$, the value of p is _____.

18. Express 2 km 6 m in kilometres.

19. Jean watched a film that started at 11:40am and ended at 1:25pm. What was the duration of the film?
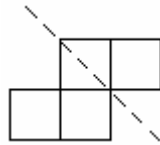
20. Miss Lee can type 300 words in 6 minutes. At this rate, she can type _____ words in 20 minutes.

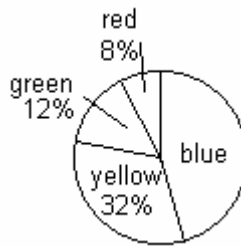21. The figure below is not drawn to scale. CBE and ABD are straight lines. Find $\angle$x.

22. Express $1\frac{3}{4}$ as a percentage.

_____

23. The figure below is made up of 4 squares. Add one more square to the figure so that it will have one line of symmetry.

The pie chart below shows the percentage of people whose favourite colour is red, blue, yellow or green. Study the chart carefully and answer questions 24 and 25.
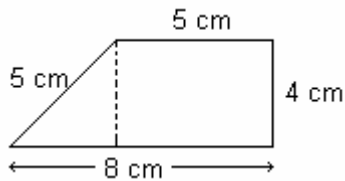

24. What percentage of people like blue colour best?

_____

25. The number of people who like blue most is 18 more than the number of people who like green most. How many people like yellow best?
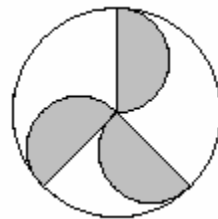
_____

26. 18 x 2 + 12 ÷ 2 – 2 = _____

27. Find the area of the trapezium below.

28. Subtract 0.819 from the sum of 5.72 and 10.5. Give your answer to 2 decimal places.

29. The figure below is made up of 1 circle and 3 semi-circles, where the diameter of the semicircle 14cm. What is the area of the unshaded part? Take π = 22/7.

30. At a sale, a bag was sold for $12. If its usual price was $20, what was the percentage of the discount?

31. The ration of the number of John's stamps to Ben's stamps is 2 : 1. The ratio of Ben's stamps to Sandy's stamps is 3 : 5. Find the ratio of the number of John's stamps to Sandy's stamps to Ben's stamps.

32. Jason spends $^2/_3$ of his salary on food and $^1/_3$ of the remainder on transport. What fraction of his salary does he have left?

33. A tank, $^1/_4$ filled with water, weighed 9.25kg. When completely filled with water, it weighed 32.5kg. What is the weight of the empty tank?

34. What is the value of $x^3 - 2x - 2$ when $x = 4$?

35. Jo, Fanny and Ali shared a box of sweets in the ratio of 3 : 4 : 5. If Jo and Fanny received 63 sweets altogether, how many sweets did Ali receive?

Section C (55 marks)
For each of the following questions, write your answer in the space given.
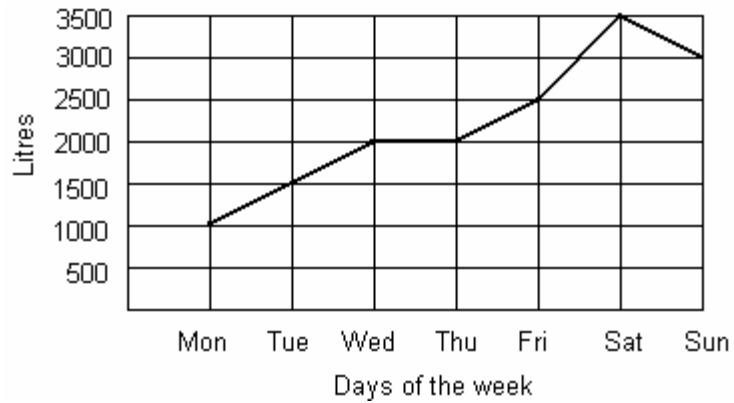**Show all your working and relevant statements.**

36. Anna bought 15 oranges. She used 6 oranges to make 4 glasses of orange juice on Monday. On Tuesday, she used the remaining oranges to make orange juice again. How many glasses of orange juice did she make on Tuesday? (2m)

37. Thomas had $6p. He spent $\frac{1}{2}$ of it on a toy plane and $\frac{1}{3}$ of the remainder on a jigsaw puzzle. How much had he left? (2m)

38. The average weight of 5 boys is 44.2kg. If another boy whose weight is 46kg joins the group, what is the average weight of the 6 boys? (2m)
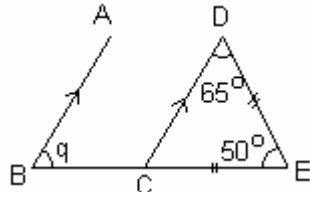
39. Mdm Goh spent $^4/_5$ of her money on 12 pears and 4 apples. If a pear costs twice as much as an apple, how many apples can she buy with the rest of the money? (3m)

40. The graph below shows the daily sale of petrol at a certain petrol station for a week.

Days of the week

(a) Find the difference between the highest and the lowest sales for the week. (1m)

(b) What is the average sales from Monday to Thursday? (2m)

41. The figure below is not drawn to scale. BCE is a straight line. Find the value of ∠q. (3m)

42. After reading $\frac{1}{3}$ of a book on Saturday, 0.75 of the remainder on Sunday and 15 pages on Monday, Dylan still has 28 pages of the book left. How many pages did he read on Saturday? (4m)

43. Miss Ho bought 500 sweets for her students. She gave 8 sweets to each girl and 10 sweets to each boy. After giving the sweets to all the boys and 12 girls, she had 54 sweets left. How many more boys than girls were there? (4m)

44. A shopkeeper bought 200 eggs for $18. He found that some of them were broken and sold the rest at 12 cents each. His earnings was 20% more than the cost price of the eggs. How many eggs were broken? (4m)

45. Farmer Joe had 500 ducks and 300 chickens. 100 chickens and ducks died in a flood. Farmer Joe bought 10 more ducks and 75 more chickens. As a result, there is a 12% decrease in the number of ducks and a 15% increase in the number of chickens.
(a) How many ducks died? (3m)
(b) How many chickens died? (1m)

46. If Will gives Nancy $9, he will have the same amount of money as Nancy. If Nancy gives Will $9, the ratio of the amount of money she has left to the amount of money Will has left will be 1 : 2. How much money has Will at first? (4m)

47. Water flows from a small tap and a big tap into an empty tank measuring 1.5m by 0.8m by 90cm at the same time. The small tap can fill the tank with 22 litres of water in one minute and the big tap can fill up the tank with 44 litres in one minute. Both taps were turned on for 10 minutes.
(a) how many litres of water are there in the tank? (2m)
(b) What is the height of the water level in the tank? (3m)

48. A transport company charges 25cents per kg to carry goods. A factory needs to send 100 boxes of jam to a supermarket. Each jar of jam weighs 0.5kg. A box which weighs 0.8kg when empty can hold 12 jars of jam. How much money does the factory have to pay for transporting the jam? (5m)

49. Town P ad Town Q were 300km apart. At 7:20pm a car started from Town P towards Town Q at a uniform speed of 90km/h. At the same time, a van started from Town Q towards Town P at a uniform speed of 60km/h.
(a) At what time did the car and the van pass each other? (3m)
(b) How far was the car from Town Q when it passed the van? (2m)

50. The ratio of the number of one-dollar coins to the number of fifty-cent coins in a box was 3 : 4. Melinda took out 6 one-dollar coins and put in fifty-cent coins of the same amount. The ratio of the number of one-dollar coins to the number of fifty-cent coins then became 1 : 3. What was the amount of money in the box? (5m)