SEMESTRAL ASSESSMENT 1 – 2016
PRIMARY 5

MATHEMATICS

Paper 1

Total Time for Paper 1: 50 minutes

You are <u>not allowed</u> to use the calculator for Paper 1.

Date : 11 May 2016

Section A

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet.
(20 marks)

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1. In 86.493, what does the digit 9 stand for?

   (1) 9 thousandths

   (2) 9 hundredths

   (3) 9 tenths

   (4) 9 ones

2. Which one of the following is the digit 7 in the hundred thousands place?

   (1) 3 784 502

   (2) 3 874 502

   (3) 3 847 502

   (4) 3 845 702

3. The common factor of two numbers is 9. What are the numbers?

   (1) 9 and 16

   (2) 18 and 29

   (3) 36 and 72

   (4) 45 and 56

4. How many ninths are there in $4\frac{2}{3}$?

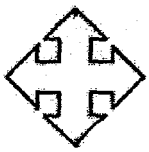
   (1) 9

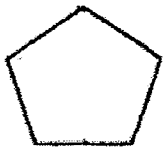
   (2) 14

   (3) 24

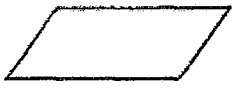
   (4) 42

5. Which of the following figures does **not** have a line of symmetry?

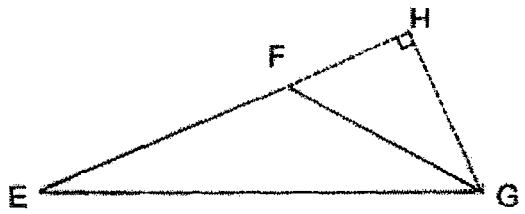
(1) 

(2) 

(3) 

(4) 

6. Given that the height of triangle EFG is HG, find its corresponding base.



(1) EF

(2) EH

(3) GE

(4) FH

7. Ben has 4 times as many stickers as Diana. What is the ratio of the number of stickers that Ben has to the total number of stickers that Ben and Diana have?

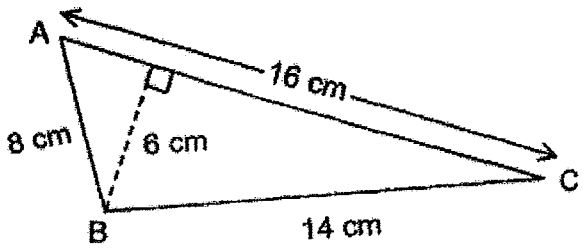
(1) 1 : 4

(2) 4 : 1

(3) 4 : 5

(4) 5 : 4

8. The area of triangle ABC is _____ cm².



(1) 42

(2) 48

(3) 56

(4) 64

9. A pole is painted red and blue in the ratio of 7 : 3. If the red portion is 28 cm longer than the blue portion, what is the length of the pole that is painted blue?

(1) 12 cm

(2) 21 cm

(3) 49 cm

(4) 70 cm

10. At a museum, $\frac{3}{5}$ of the visitors are adults and the rest are children. $\frac{1}{4}$ of the children are girls. What fraction of the visitors are girls?

(1) $\frac{2}{5}$

(2) $\frac{3}{4}$

(3) $\frac{1}{10}$

(4) $\frac{3}{10}$

11. Joel mixed some water and orange syrup to make orange juice. $\frac{3}{5}$ of the mixture consisted of water. If Joel used 1500 ml of water, how much orange syrup did he use?

(1) 600 ml
(2) 750 ml
(3) 1000 ml
(4) 2500 ml

12. The ratio of Kelly's savings to Tricia's savings is 2 : 5. If Kelly saves $24 more and Tricia spends $12, they will have the same amount of money. How much is Tricia's savings?

(1) $12
(2) $24
(3) $36
(4) $60

13. Mandy bought some pencils and pens for $72. She bought more pencils than pens and paid $12 for the additional pencils. If a pencil and a pen cost $3, how many pens did she buy?

(1) 4
(2) 6
(3) 20
(4) 24

14. The total height of Aaron, Benson and Caleb is 497 cm. Aaron is 15 cm shorter than Benson but 7 cm taller than Caleb. What is Caleb's height?

(1) 156 cm

(2) 163 cm

(3) 171 cm

(4) 178 cm

15. Sarah and Jenny shared the total cost of a meal at a restaurant. Sarah paid \$20 less than $\frac{3}{5}$ of the total cost of the meal. Jenny paid \$84. How much did Sarah pay for the meal?

(1) \$32

(2) \$64

(3) \$76

(4) \$160

Section B (20 marks)

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

16. What is the missing number in the blank?

2 000 000 + 50 000 + 8 000 + 700 = _____

Ans: _____

17. Find the value of 3500 x 30.

Ans: _____

18. What fraction of 5 kg is 750 g? Give your answer in the simplest form.

Ans: _____

19. What is the ratio of 28 cm to 3 m ? Give your answer in the simplest form.

Ans: _____

20. Find the value of $3 \times 9 + (26 - 8) \div 6$.

Ans: _____

21. What is the missing number in the box?

15 : 21 = ? : 49

Ans: _____

22. Kelly had a string which was $\frac{2}{3}$ m long. She cut them into 6 identical smaller pieces. What was the length of each of the small piece of string? Give your answer in the simplest form.

Ans: _____ m

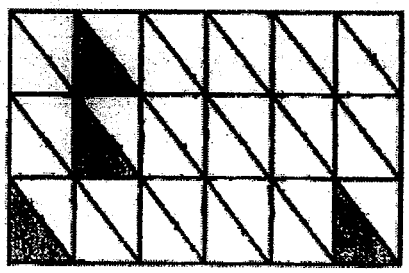
23. Mrs Chan baked 42 chocolate cakes and 18 durian cakes. What is the ratio of the number of durian cakes to the number of chocolate cakes that Mrs Chan baked? Give your answer in the simplest form.

Ans: _____

24. Mr Koh donated $90 000 to the elderly in an old folks' home. There were 200 elderly in the old folks' home. How much did each of them get?

Ans: $ _____

25. What fraction of the figure below is unsl



Ans: _____

Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which requires units, give your answers in the units stated. (10 marks)

Do not write in this space

26. $\frac{6}{11}$ of the pupils who took part in a race were boys. There were 300 girls.

How many pupils took part in the race altogether?

Ans: _____

27. Tom started exercising by doing 5 sit-ups on the first day. Every day, he would do 2 more sit-ups than the day before. How many sit-ups did he do altogether after 7 days?

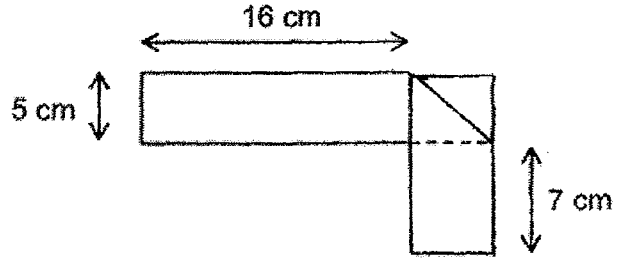
Ans: _____

28. **The perimeter of a rectangle is 88 cm. The length of the rectangle is 24 cm. What is the ratio of the length of the rectangle to the breadth of the rectangle? Give your answer in the simplest form.**

Do not write in this space

Ans: _____

29. A rectangular piece of paper is folded to form the figure below. Find the perimeter of the rectangular piece of paper **before** it was folded.



Ans: _____ cm

30. The table below shows the postage charges for sending a parcel to Country A:

Mass	Cost
First 5 kg	$65
Additional 1 kg or part thereof	$7

Raymond paid $128 for sending a parcel to Country A. What could be the maximum mass of the parcel?

Ans: _____ kg

Do not write in this space

-- END OF PAPER 1 --

SEMESTRAL ASSESSMENT 1 – 2016
PRIMARY 5

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 minutes

You are allowed to use a calculator.

Date : 11 May 2016

Paper 2

Do not write in this space

Questions 1 to 5 carry 2 marks each. Show your workings clearly and write your answer in the space provided. For questions which require units, give your answers in the units stated. (10 marks)

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1. Ryan had $324 and Kenneth had $1076. How much money must Kenneth give to Ryan so that they would have equal amount of money in the end?

Ans: $ _____

2. Ten similar flags were placed along a straight line at equal distance apart. The distance between the third and the ninth flag was 18 m. What was the distance between the second flag and the fifth flag?

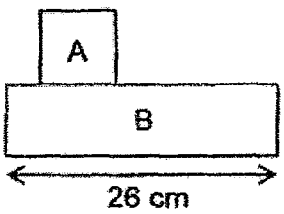
Ans: _____ m

3. The ratio of the amount of money that Lisa had to the amount of money that Kevin had was 5 : 2. After Lisa spent $118, the ratio of the money that Lisa had left to the amount of money that Kevin had left became 3 : 2. How much did Lisa have at first?

Do not write in this space

Ans: $_____

4. The figure below, not drawn to scale, is made up of Square A and Rectangle B. The area of Square A is 49 cm². The length of Square A is the same as the breadth of Rectangle B. If the length of Rectangle B is 26 cm, what is the total area of figure A and B?



Ans:_____ cm²

5. The numbers are arranged in 4 columns as shown below. Under which column will the number "103" appear?

A	B	C	D
1	2	3	4
8	7	6	5
9	10	11	12
...	...	...	13

Do not write in this space

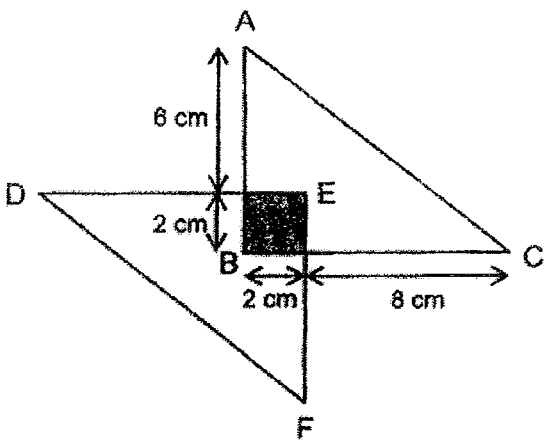
For questions 6 to 18, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (50 marks)

Do not write in this space

6. **3 belts and 5 wallets cost $349. 6 belts and 4 wallets cost $416. Find the total cost of 1 belt and 1 wallet.**

Ans: _____ [3]

7. In the figure below, not drawn to scale, Triangle ABC and DEF are identical right-angled triangles. Find the **unshaded** area of the figure.



Ans: _____ [3]

8. Mr Chen sold 84 egg tarts in the morning and $\frac{3}{5}$ of the remaining egg tarts in the afternoon. In the end, he still had $\frac{1}{4}$ of the egg tarts left. How many egg tarts did he have at first?

Do not write in this space

Ans: _____ [3]

9. At a sale, a discount of $4 was given for every 5 boxes of cookies bought. Each box of cookies cost $12. Mr Lim paid a total of $204. How many boxes of cookies did he buy?

Ans: _____ [3]

10. There were 60 children at a carnival. Each boy received 3 balloons and each girl received 5 balloons. The total number of balloons given to the children was 226. How many boys were at the carnival?

Do not write in this space

Ans: _____ [3]

11. The ratio of the amount of flour in Box A to the amount of flour in Box B is 3 : 7. The total amount of flour in Box A and Box B is 680 g.

a) How much flour is there in Box A?

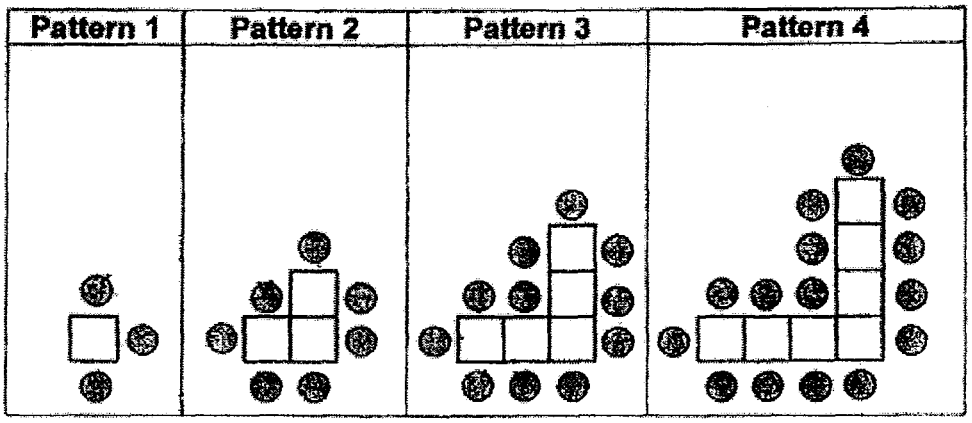
b) How much flour must be transferred from Box B to Box A so that there is an equal amount of flour in both boxes?

Ans: (a)_____ [2]

(b)_____ [2]

Do not write in this space

12. **The pattern below is made up of squares and circles.**
Study the pattern carefully and answer the questions below.



(a) How many squares are needed to form pattern 8?

(b) How many circles are needed to form pattern 6?

(c) How many circles are there in pattern 48?

Ans: (a)_____ [1]

(b)_____ [1]

(c)_____ [2]

13. There were 69 girls and 47 boys in the library. After an equal number of girls and boys left the library, the ratio of the number of girls to the numbers of boys who remained in the library became 5 : 3.

(a) How many children remained in the library?

(b) How many children left the library?

Do not write in this space

Ans: (a)_____ [2]

(b)_____ [2]

14. Lishan spent $\frac{1}{4}$ of her money and an additional $9 on a dress. She then spent $\frac{1}{3}$ of her remaining money and an additional $6 on a bag. If she had $58 left, how much did she spend on the dress?

Ans: _____ [4]

15. Mrs Goh spent $\frac{3}{5}$ of her money on 2 identical televisions and 4 identical fans. She then spent $\frac{1}{3}$ of her remaining money on a washing machine. The washing machine cost $520.

Do not write in this space

a) What is the total cost of the 2 televisions and 4 fans?

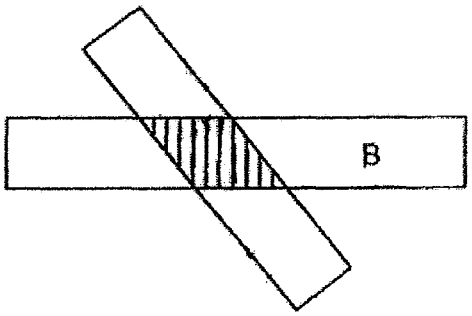
b) If each television cost $933 more than each fan, what is the cost of each fan?

Ans: (a)_____ [2]

(b)_____ [2]

16. The figure below, not drawn to scale, is made up of Rectangle A and Rectangle B overlapping each other. The area of Rectangle A is $\frac{3}{4}$ the area of Rectangle B. Given that $\frac{1}{4}$ of Rectangle A is shaded, what fraction of the total area of the figure is unshaded?

Do not write in this space



Ans: _____ [5]

17. Charlene receives $50 more pocket money than Elaine each month. Both of them spend $120 per month on transport and save the rest. After a few months, Charlene saves $1 610 but Elaine only saves $1 260.

(a) What is Charlene's monthly pocket money?

(b) Elaine wants to save a total of $2 340. How many more months must she save in order to save this amount?

Do not write in this space

Ans: (a)_____ [3]

(b)_____ [2]

18. At a race, $\frac{3}{7}$ of the number of boys is equal to $\frac{2}{5}$ of the number of girls. The number of adults at the race is thrice the number of children. The number of coupons given to each adult, boy and girl at the race is 4, 3 and 2 respectively. The total number of coupons given at the race is 7 980.

(a) What is the total number of coupons given to the adults?

(b) What is the number of girls at the race?

Do not write in this space

Ans: (a)_____ [3]

(b)_____ [2]

-- END OF PAPER 2 --

ANSWER SHEET

EXAM PAPER 2016

SCHOOL : NAN HUA PRIMARY SCHOOL

SUBJECT : MATHEMATICS

TERM : SEMESTER ASSESSMENT 1 2016 – PRIMARY 5

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	3	4	4	1	3	2	2	3
Q11	Q12	Q13	Q14	Q15					
3	4	3	1	3					

16. 2 058 700

17. 3500×30
$= 35 \times 100 \times 3 \times 10$
$= 35 \times 3 \times 100 \times 10$
$= 105 \times 1000$
$= 105\,000$

18. $5kg = 5000g$
$\frac{750}{5000} = \frac{75}{500} = \frac{15}{100} = \frac{3}{20}$

19. $3m = 300cm$
$\frac{28}{300} = \frac{14}{150} = \frac{7}{75}$

20. $3 \times 9 + (26 - 8) \div 6$
$= 27 + 18 \div 6$
$= 27 + 3$
$= 30$

21. $21 = 3 \times 7$

$49 = 7 \times 7$
$15 = 3 \times 5$
$7 \times 5 = 35$
$\overline{35}$
$\overline{49}$

22. $\frac{2}{3} \times \frac{1}{6} = \frac{2}{18} = \frac{1}{9}$

23. $\frac{18}{42} = \frac{9}{21} = \frac{3}{7}$

24. $\$90\,000 \div 200 = \$900 \times 100 \div 2 \times 100 = \$900 \div 2 = \$450$

25. $total\ number\ of\ boxes = 3 \times 6 = 18$
$number\ of\ unshaded\ boxes = 18 - 2 = 16$
$\frac{16}{18} = \frac{8}{9}$

26. $fraction\ of\ girls = 1 - \frac{6}{11} = \frac{5}{11}$
$total\ number\ of\ pupils = (300 \div 5) \times 11 = 60 \times 11 = 660$

27. $5 + 5 + 2 + 5 + 2 \times 2 + 5 + 2 \times 3 + 5 + 2 \times 4 + 5 + 2 \times 5 + 5 + 2 \times 6$
$= 5 \times 7 + 2 \times (1 + 2 + 3 + 4 + 5 + 6)$
$= 35 + 2 \times 21 = 35 + 42$
$= 77$

28. $breadth\ of\ rectangle = 88 \div 2 - 24 = 44 - 24 = 20$
$\frac{24}{20} = \frac{6}{5}$

29. $2 \times (5 + 16 + 5 + 7) = 2 \times 33 = 66$

30. $\$128 - \$65 = \$63$
$\$63 \div \$7 = 9$
$5 + 9 = 14$

Paper 2

1. $(\$1076 - \$324) \div 2 = \$752 \div 2 = \$376$

2. $\big(18m \div (9-3)\big) \times (5-2) = (18m \div 6) \times 3 = 3m \times 3 = 9m$

3. $(\$118 \div 2) \times 5 = \$59 \times 5 = \$295$

4. $Length\ of\ square\ A = \sqrt{49cm^2} = 7cm$
   $total\ area\ of\ A\ and\ B = 7cm \times (7cm + 26cm) = 7cm \times 33cm = 231cm^2$

5. $103 \div 8 = 12r7$
   Column B

6. $cost\ of\ 9\ belts\ and\ 9\ wallets = \$349 + \$416 = \$765$
   $cost\ of\ 1\ belf\ and\ 1\ wallet = \$765 \div 9 = \$85$

7. $area\ of\ triangle\ ABC\ and\ DEF = 10cm \times 8cm = 80cm^2$
   $area\ of\ shaded\ area = 2cm \times 2cm = 4cm^2$
   $area\ of\ unshaded\ area = 80cm^2 - 2 \times 4cm^2 = 80cm^2 - 8cm^2 = 72cm^2$

8. $\frac{2}{5}\ of\ remaining\ egg\ tarts\ is\ equals\ to\ \frac{1}{4}\ of\ egg\ tarts\ left, \frac{1}{4} = \frac{2}{8}$
   $\frac{5}{8}\ of\ egg\ tarts\ are\ left\ in\ the\ afternoon$
   $\frac{3}{8}\ of\ egg\ tarts\ are\ 84\ egg\ tarts$
   $total\ egg\ tarts\ at\ first = (84 \div 3) \times 8 = 28 \times 8 = 224$

9. $cost\ of\ 5\ boxes\ of\ cookies = \$12 \times 5 - \$4 = \$60 - \$4 = \$56$
   $204 \div 56 = 3r36$
   $5 \times 3 + 36 \div 12 = 15 + 3 = 18$

10. $60 \times 5 = 300$ balloons, assuming all 60 children are girls
    $300 - 226 = 74$ balloons in shortage
    $74 \div 2 = 37$ boys

11.
    a. $amount\ of\ flour\ in\ A = 3 \times (680 \div 10) = 3 \times 68 = 204g$
    b. $\big((7-3) \div 2\big) \times 68 = (4 \div 2) \times 68 = 2 \times 68 = 136g$

12.
    a. $2 \times n - 1 = 2 \times 8 - 1 = 16 - 1 = 15$
    b. $4 \times n - 1 = 4 \times 6 - 1 = 24 - 1 = 23$
    c. $4 \times n - 1 = 4 \times 48 - 1 = 192 - 1 = 191$

13.
    a. $children\ remained = \big((69 - 47) \div 2\big) \times 8 = (22 \div 2) \times 8 = 11 \times 8 = 88$
    b. $children\ left = 69 + 47 - 88 = 116 - 88 = 28$

14. $\frac{2}{3} of\ remaining\ money = \$6 + \$58 = \$64$

$\frac{3}{4} of money = \$9 + (\$64 \div 2) \times 3 = \$9 + \$32 \times 3 = \$9 + \$96 = \$105$

$cost\ of\ dress = \$105 \div 3 + \$9 = \$35 + \$9 = \$44$

15.

a. $remaining\ money = \$520 \times 3 = \$1560 = \frac{2}{5} of\ her\ money$

$\frac{3}{5} of\ her\ money = \$1560 \div 2 \times 3 = \$780 \times 3 = \$2340$

b. $6\ fans\ cost = \$2340 - 2 \times \$933 = \$2340 - \$1866 = \$474$

$1\ fan\ cost = \$474 \div 6 = \$79$

16. Ratio of area of A to area of B is 3: 4

Ratio of shaded area in A to area of A is 1:4

Ratio of shaded area in A to area of A to area of B is $1 \times 3 : 4 \times 3 : 4 \times 4 = 3 : 12 : 16$

Fraction of shaded area over total area of A and B is $\frac{3}{12+16-3} = \frac{3}{25}$

Fraction of unshaded area over total area of A and B is $\frac{25-3}{25} = \frac{22}{25}$

17.

a. $number\ of\ months = (\$1610 - \$1260) \div \$50 = \$350 \div \$50 = 7$

$Charlene's\ monthly\ pocket\ money = \$1610 \div 7 + \$120 = \$230 + \$120$

$= \$350$

b. $Elaine's monthly\ saving = \$1260 \div 7 = \$180$

$(\$2340 - \$1260) \div \$180 = \$1080 \div \$180 = 13.5 months$

18.

a. $\frac{3}{7}$ of the number of boys is equal to $\frac{2}{5}$ of the number of girls

$\frac{6}{14}$ of the number of boys is equal to $\frac{6}{15}$ of the number of girls

Ratio of number of boys to number of girls is 14: 15

The number of adults at the race is thrice the number of the children

Ratio of number of adults to number of boys to number of girls is $3 \times (14 + 15) : 14 : 15$,

87: 14: 15

b. Ratio of number of coupons given to adults to number of coupons given to boys to number of coupons given to girls is $87 \times 4 : 14 \times 3 : 15 \times 2$, 348: 42: 30

Number of coupons given to adults is $348 \times \left(7980 \div (348 + 42 + 30)\right)$

$= 348 \times (7980 \div 420)$

$= 348 \times 19$

$= 6612$

Number of coupons given to girls is $30 \times \left(7980 \div (348 + 42 + 30)\right)$

$= 30 \times (7980 \div 420)$

$= 30 \times 19$

$= 570$

Each girl received 2 coupons, number of girls is $570 \div 2 = 285$