

ST. STEPHEN'S GIRLS' COLLEGE
Mid-Year Examination 2017 – 2018

Form 1

VC, LHK, KAL, LL, CYN

181 students

Mathematics
Time Allowed : 1 hour
Question/Answer Paper

Please read the following instructions very carefully.

1. This paper consists of TWO sections, A and B.
2. Write your class, class number, name and division in the spaces provided on this cover.
3. This paper carries 100 marks. Attempt ALL questions in this paper. Write your answers in the spaces provided in this Question/Answer Paper.
4. The diagrams in this paper are not necessarily drawn to scale.

Class	
Class No.	
Name	
Division	

For Markers' Use Only	
1 – 24.	(58)
25.	(6)
26.	(6)
27.	(6)
28.	(6)
29.	(6)
30.	(5)
31.	(7)
TOTAL	(100)

Section A (58%)

All rough work should be done on the rough work paper provided, but will not be marked.

	<u>Answers</u>	<u>Marks</u>
1. Divide +6 by the sum of +1 and -4. Find the result.	1. _____	2
2. Arrange the following numbers in ascending order: $+3\frac{1}{5}, -3.5, -1\frac{1}{3}, +4.1$	2. _____	2
3. Evaluate $6 - (-1.5) + (+9) \times \left(-\frac{5}{6}\right)$.	3. _____	2
4. Represent the following word phrase by an algebraic expression: Subtract the square of the sum of a and b from half of c .	4. _____	2
5. For the algebraic expression $3x \times y - 12 + 20 \div 10 \times x$, write down (a) the number of terms, (b) the constant term.	5. (a) _____ (b) _____	1 1
6. Solve the equation $20 = 4(2 - x)$.	6. $x =$ _____	2
7. Simplify $3a + 4b \times a - 2a \div 2 + 2ab$.	7. _____	2
8. The remaining stored value of John's octopus card is \$9.2. After buying 6 bags of candy with this octopus card, the remaining stored value becomes -\$23.8. Find the price of a bag of candy.	8. _____	3
9. Frank's weight is two-thirds of his father's weight. If their total weight is 120 kg, find the weight of Frank's father.	9. _____	2
	Subtotal:	19

10. Ben has 3 times as many sweets as Ken. After eating 14 sweets, Ben gives the remaining sweets to 4 friends. If each friend gets 13 sweets, how many sweets does Ken have?

11. The sum of two consecutive integers is -435 . Find the larger integer.

12. Which of the following is a formula?

- A. $\pi^2 r$
- B. $S = \frac{6}{r}$
- C. $a + 4pr$
- D. $T(7 - s)$

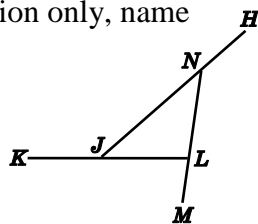
13. The printing cost $\$C$ of n pages of notes can be calculated by the formula $C = 4 + 0.25n$. If $n = 400$, find the printing cost.

14. Set up an inequality to represent each of the following.

- (a) The result of adding m to 8 is not greater than 20.
- (b) The result of subtracting a from 4 squared is less than -8 .

15. Refer to the diagram. By observation only, name

- (a) one acute angle;
- (b) one obtuse angle.



16. Which of the following angles is the largest?

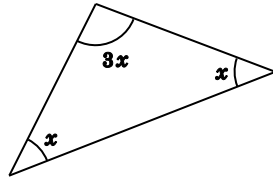
- A. $\frac{5}{6}$ of a right angle
- B. $\frac{2}{3}$ of a straight angle
- C. $\frac{1}{5}$ of a round angle
- D. $\frac{1}{4}$ of a round angle

10.	_____	3
11.	_____	3
12.	_____	2
13.	_____	2
14.		
(a)	_____	2
(b)	_____	2
15.		
(a)	_____	1
(b)	_____	1
16.	_____	2

Subtotal:

18

17. Classify the following triangle according to the sizes of its angles.



18. If 45% of a number is 135, find the number.

19. There are altogether 36 red balls and white balls in a bag. If $33\frac{1}{3}\%$ of the balls are white, find the number of red balls in the bag.

20. In a school, there are 1200 students and 42% of the students are boys. If 189 boys do not wear glasses, find the percentage of boys who do not wear glasses.

21. Last year, the height of a plant was 40 cm. If the height of the plant is 50 cm this year, find the percentage increase of the height of the plant.

22. A dress is sold at a 24% discount and the selling price is \$190. Find the marked price of the dress.

23. A shirt marked at \$150 is sold at a discount of 20%. If the percentage profit is 60%, find the cost price of the shirt.

24. The weights of five tourists are given in the table below.

	Paul	Queenie	Rose	Stanley	Tom
Weight	82 kg	53 kg	76 kg	104 kg	99 kg

Estimate their total weight by rounding off each weight to the nearest 10 kg.

17. _____ 2

18. _____ 2

19. _____ 2

20. _____ 3

21. _____ 3

22. _____ 3

23. _____ 3

24. _____ 3

Subtotal:

21

Section B (42%) All working must be clearly shown in the spaces provided.

25. (a) Find the product of the first two multiples of 5. (2 marks)
- (b) Find the sum of all the prime numbers between 10 and 18. (2 marks)
- (c) Using the results of (a) and (b), evaluate the following:
Subtract the product of the first two multiples of 5 from the sum of all the prime numbers between 10 and 18. (2 marks)

26. It is given that a copper wire is no longer than 50 cm. It is then bent into a rectangle of length x cm and width y cm.
- (a) Set up an inequality to represent the above situation. (1 mark)
- (b) Can the copper wire form a rectangle of length 16 cm and width 10 cm? Explain your answer. (3 marks)
- (c) If the width of the rectangle formed is 11 cm, write down two possible lengths of the rectangle formed. (2 marks)

30. Alice weighs 45 kg. The weight of Betty is 10% higher than that of Alice.

(a) Find the weight of Betty. (2 marks)

(b) The weight of Alice is 10% lower than that of Christine. Do Betty and Christine have the same weight? Explain your answer. (3 marks)

31. In a shop, when a handbag is sold at a discount of 30%, a profit of \$200 is made. It is given that the marked price of the handbag is 5 times of its cost price.

(a) Find the cost price of the handbag. (4 marks)

(b) The shopkeeper wants to make a profit of \$400 if the handbag is sold at a discount of 20%. Find the new marked price of the handbag. (3 marks)

This section contains 30 horizontal dotted lines for writing answers.

End of Paper