St. Stephen's Girls' College
Final Examination 2015-2016

Form 1 **VC, LHK, KAL, CYN**
176 students

MATHEMATICS
Paper II
Time Allowed: 1 hour

Name: _____ Class No. _____ Class: _____ Division: _____

Please read the following <u>instructions</u> very carefully.

- *Answer **ALL** questions in the spaces provided in this **Question-Answer Paper**.*
- *All rough work should be done on the rough work paper provided, but will not be marked.*
- *The diagrams in this paper are not necessarily drawn to scale.*
- *This paper carries 100 marks.*

		Answers	**Marks**
1.	(a) Round off 201.654 to 1 decimal place.	1. (a) _____	1
	(b) Round up 201.654 to the nearest ten.	(b) _____	1
2.	Find the L. C. M. of 2×3^3 and $2^2\times3$.	2._____	2
3.	Evaluate $13+(-3)\times(-2)^2$.	3._____	3
4.	Subtract 7 from the product of 2 and 3. Find the result.	4. _____	2
5.	Use an algebraic expression to represent the following: q is divided by the sum of r and 3.	5. _____	3
6.	If a piece of paper is $4p$ mm thick, how many pieces of paper are there in a stack of paper that is $36pq$ mm thick?	6. _____	3
7.	Given the expression $2x^3-x^2\div2+5x-6$. Find	7.	
	(a) the number of terms;	(a) _____	1
	(b) the constant term and	(b) _____	1
	(c) a pair of like terms.	(c) _____	1
8.	If the sum of two consecutive odd numbers is 88, find the larger number.	8. _____	2
9.	Consider the formula $a=b(1-c)$. If b = 50 and c = 0.3, find the value of a.	9. _____	3
		Sub-total:	23

10. Write down an integer that can satisfy the following inequality.
$6a + 12 \geq 30$

10. _____ 2

11. Sam has 7 \$5 coins, 5 \$2 coins and k 20 cents coins. It is known that the total value of these coins is not less than \$50. Use an inequality to represent the situation.

11. _____ 3

12. The general term of a sequence is $\frac{n}{4n-5}$. Find the 3rd term and the 18th term of the sequence.

12.
3rd term = _____ 1

18th term = _____ 1

13. Determine whether the following must be true.
(a) Half of a straight angle is a right angle.
(b) Two times an obtuse angle is smaller than a round angle.
(c) Two times an acute angle is larger than a straight angle.

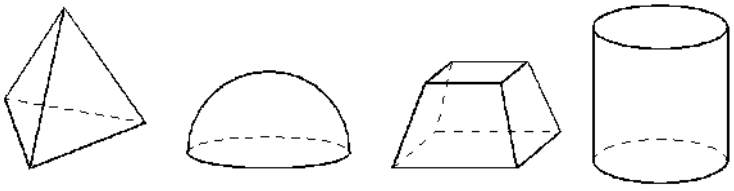
13.
(a) Yes / No 1
(b) Yes / No 1
(c) Yes / No 1

14. What is the sum of $\angle ABC$ and reflex $\angle ABC$?

14. _____ 2

15. Which of the following solids has/have a uniform cross-section?

A. B. C. D.



15. _____ 2

16. Convert $\frac{5}{3}$ into a percentage.

16. _____ 2

17. The cost of a cook set is \$1200. It is sold at a profit of 140%. Find the selling price of the cook set.

17. _____ 3

18. A shop makes a loss of \$10 800 for selling a diamond ring and the loss per cent is 30%. What is the cost price of the diamond ring?

18. _____ 3

19. On Easter Monday, all the items in a shop are sold at a discount of 10%. Peggy buys a pair of shoes for \$999. What is the marked price of the pair of shoes?

19. _____ 3

20. If a number is decreased from A to B, which of the following expressions may represent the percentage decrease?

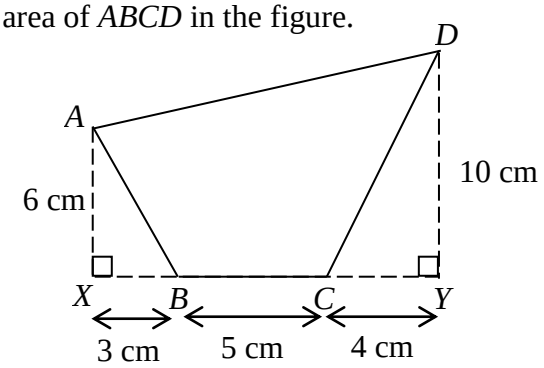
I. $\frac{A-B}{B}\times 100\%$ II. $\frac{A-B}{A}\times 100\%$

III. $\frac{B-A}{B}\times 100\%$ IV. $\frac{B-A}{A}\times 100\%$

20. _____ 2

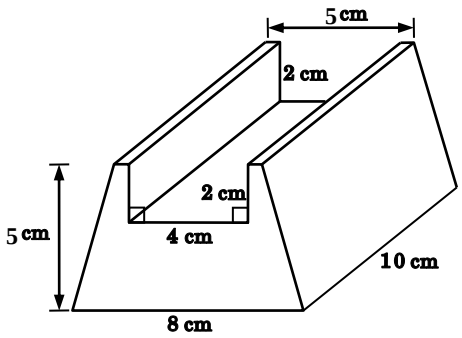
Sub-total: 27

21. Find the area of *ABCD* in the figure.



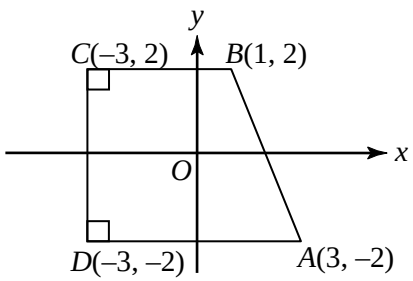
21. _____ 3

22. Find the volume of the prism in the figure.



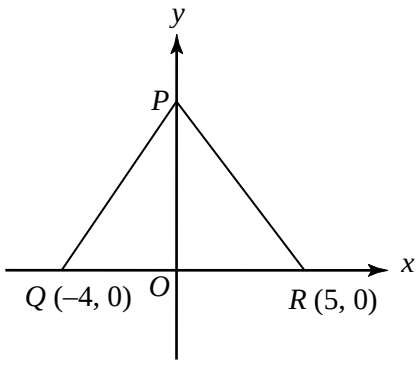
22. _____ 3

23. The figure shows a polygon *ABCD*. Find its area.



23. _____ 3

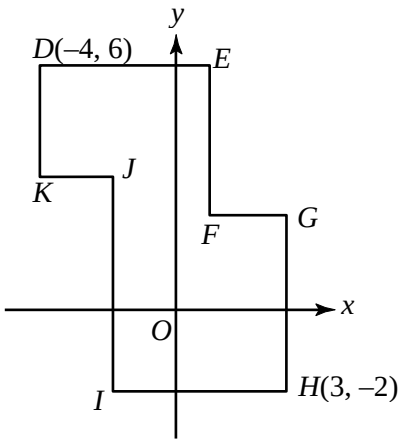
24. In the figure, *P* is a point on the *y*-axis and the area of ΔPQR is 27 sq. units. Find the coordinates of *P*.



24. _____ 3

Sub-total: /12

25. The figure shows a polygon *DEFGHIJK*, whose sides are either horizontal or vertical. Find its perimeter.



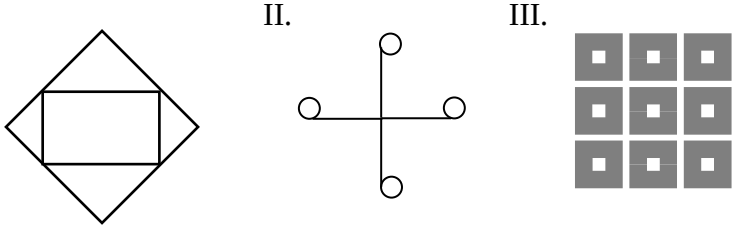
25._____ 3

26. The rectangular coordinates of the point *A* are (2, –3). If *A* is reflected in the *y*-axis to a point *B*, what are the rectangular coordinates of *B*?

26._____ 3

27. Which of the following figures has/have 4-fold rotational symmetry?

I. II. III.



27._____ 2

28. Figure *A* undergoes a single transformation to become Figure *B*. Which of the following transformations may be involved?

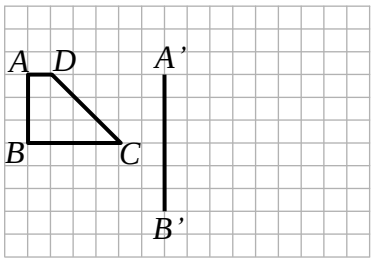
Figure A Figure B

A. Reflection
B. Rotation
C. Translation

28._____ 2

29. Draw the image of *ABCD* if it is enlarged to become *A'B'C'D'*.

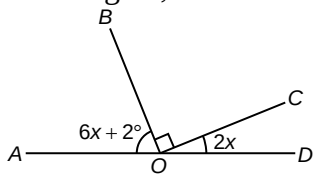
29.



3

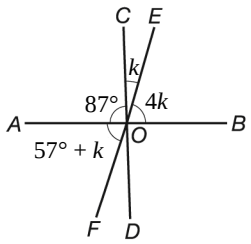
Sub-total: 13

30. In the figure, *AOD* is a straight line. Find *x*.



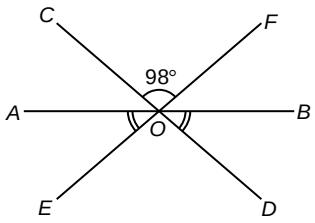
30._____ 2

31. In the figure, *EOF* is a straight line but *AOB* is not. Find the value of *k*.



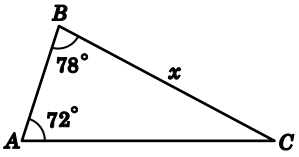
31._____ 3

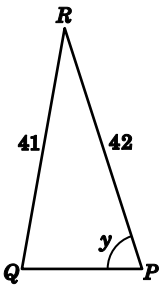
32. In the figure, *AOB*, *COD* and *EOF* are straight lines. If $\angle AOE = \angle BOD$, find $\angle AOE$.



32._____ 3

33. In the figure, $\Delta ABC \cong \Delta PQR$. Find *x* and *y*.

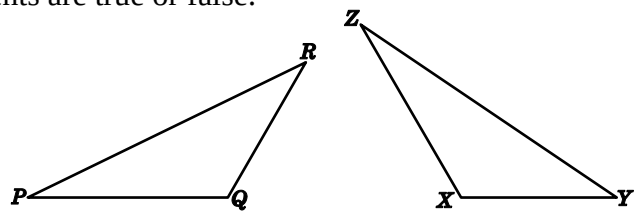




33. x = _____ 1

y = _____ 1

34. In the figure, $\Delta QPR \cong \Delta XZY$. Determine whether the following statements are true or false.



34.

(a) *PQ* and *XY* are a pair of corresponding sides. (a) True / False 1

(b) $\angle R$ and $\angle Y$ are a pair of corresponding angles. (b) True / False 1

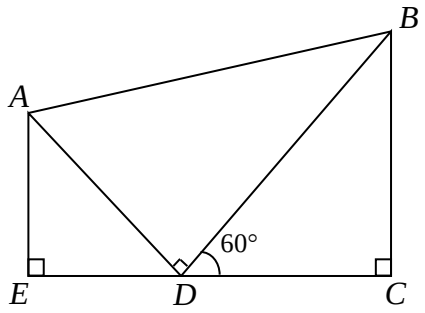
(c) The lengths of *PR* and *YZ* must be equal. (c) True / False 1

35. It is given that $\Delta ABC \sim \Delta EDC$. $\angle B$ = _____?_____ .

35. $\angle B$ = _____ 2

Sub-total: 15

36. In the figure, *CDE* is a straight line. Name a pair of similar triangles with a reason.



36.

Δ_____ ~ Δ_____ 2

Reason: _____ 1

37. Determine whether the following are discrete or continuous data.
(a) The number of students in each class in a school
(b) The weight of 40 eggs

37.
(a) discrete / continuous 1
(b) discrete / continuous 1

38. The following stem-and-leaf diagram shows the heights of 20 students. What is the height of the second tallest student?

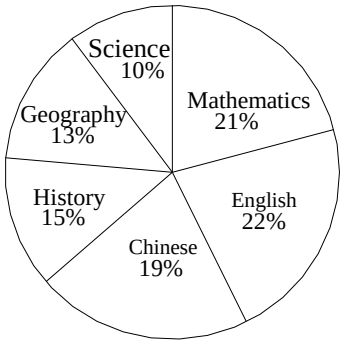
Heights of 20 students

Stem (10 cm)	Leaf (1 cm)
14	9
15	0 1 5 6 6 7 7 9
16	1 1 3 4 7 7 9
17	5 6 7
18	0 4

38._____ 2

39. The following pie chart shows the distribution of the types of textbooks in a library. If there are 105 Mathematics textbooks in the library, how many textbooks in the library are there in total?

The distribution of the types of textbooks in a library



39._____ 3

Sub-total: 10

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