

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

Form 1
176 students

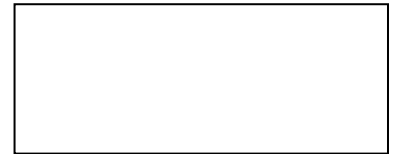
VC, LHK, KAL, CYN

MATHEMATICS
Paper II
Time Allowed: 1 hour

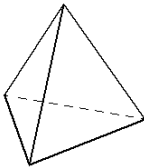

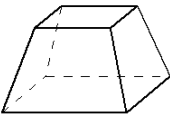
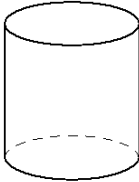
Name: _____ **Class No.** _____ **Class:** _____ **Division:** _____

Please read the following instructions 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.



	<u>Answers</u>	<u>Marks</u>
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 $2^2 \times 3$.	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 $2x^3 - x^2 \div 2 + 5x - 6$. 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

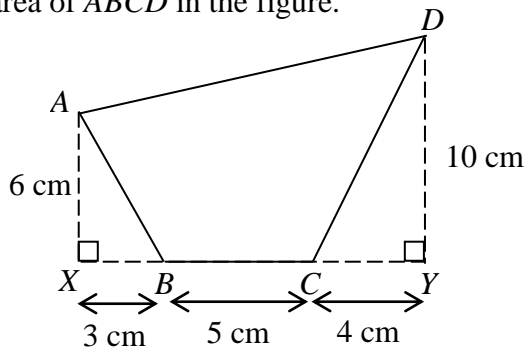
10. Write down an integer that can satisfy the following inequality.
 $6a + 12 \geq 30$
11. Sam has 7 \$5 coins, 5 \$2 coins and k 20 cents coins. It is known that the total value of these coins is not less than \$50. Use an inequality to represent the situation.
12. The general term of a sequence is $\frac{n}{4n-5}$. Find the 3rd term and the 18th term of the sequence.
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.
14. What is the sum of $\angle ABC$ and reflex $\angle ABC$?
15. Which of the following solids has/have a uniform cross-section?
 A.  B.  C.  D. 
16. Convert $\frac{5}{3}$ into a percentage.
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.
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?
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?
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. $\frac{B-A}{A} \times 100\%$

10. _____	2
11. _____	3
12. 3 rd term = _____	1
18 th term = _____	1
13. (a) Yes / No (b) Yes / No (c) Yes / No	1 1 1
14. _____	2
15. _____	2
16. _____	2
17. _____	3
18. _____	3
19. _____	3
20. _____	2

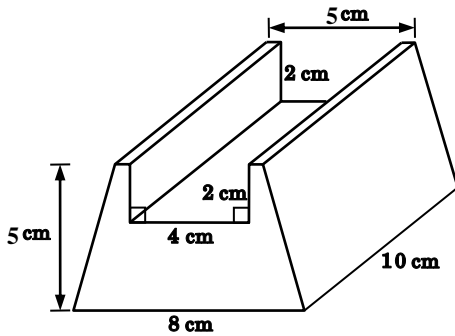
Sub-total:

27

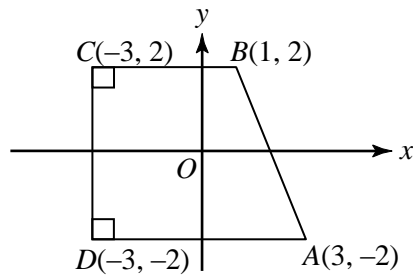
21. Find the area of $ABCD$ in the figure.



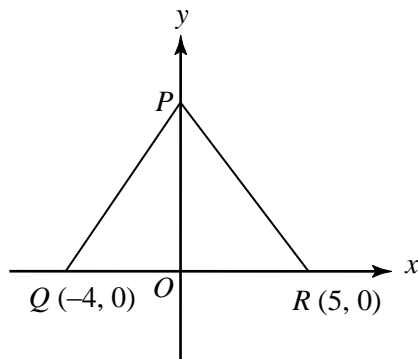
22. Find the volume of the prism in the figure.



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



24. In the figure, P is a point on the y -axis and the area of $\triangle PQR$ is 27 sq. units. Find the coordinates of P .



21. _____

3

22. _____

3

23. _____

3

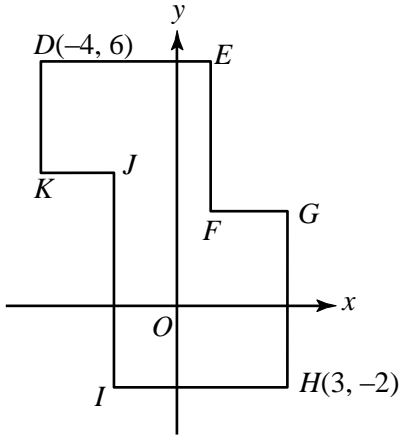
24. _____

3

Sub-total:

12

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



25. _____ 3

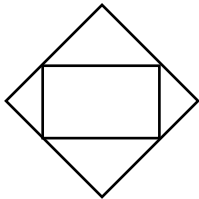
26. The rectangular coordinates of the point A are $(2, -3)$. If A is reflected in the y -axis to a point B , what are the rectangular coordinates of B ?

26. _____ 3

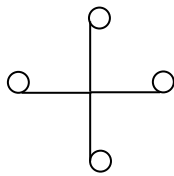
27. Which of the following figures has/have 4-fold rotational symmetry?

27. _____ 2

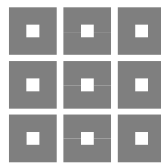
I.



II.



III.



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

28. _____ 2

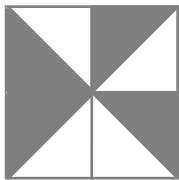


Figure A

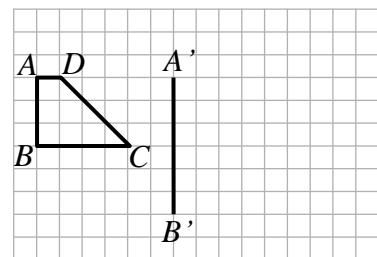


Figure B

- A. Reflection
- B. Rotation
- C. Translation

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

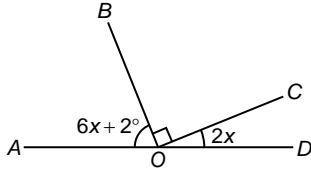
29. _____ 3



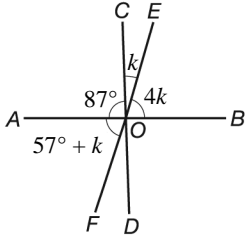
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13

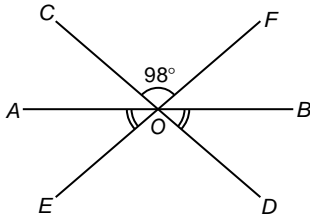
30. In the figure, AOD is a straight line. Find x .



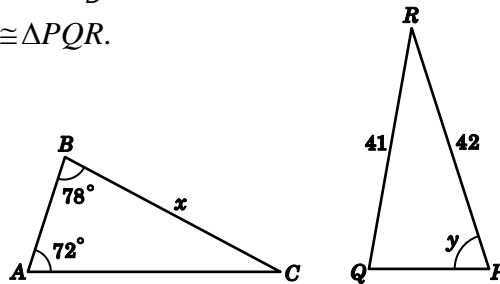
31. In the figure, EOF is a straight line but AOB is not. Find the value of k .



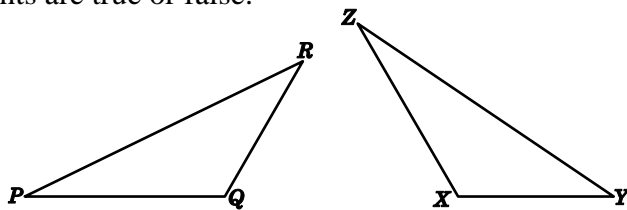
32. In the figure, AOB , COD and EOF are straight lines. If $\angle AOE = \angle BOD$, find $\angle AOE$.



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



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



- (a) PQ and XY are a pair of corresponding sides.
- (b) $\angle R$ and $\angle Y$ are a pair of corresponding angles.
- (c) The lengths of PR and YZ must be equal.

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

30. _____ 2

31. _____ 3

32. _____ 3

33. $x =$ _____ 1

$y =$ _____ 1

34.

(a) True / False 1

(b) True / False 1

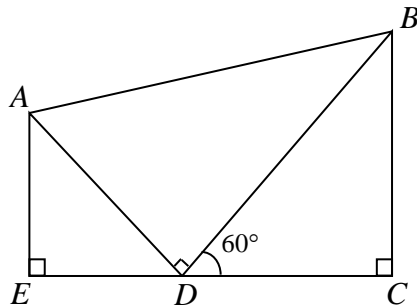
(c) True / False 1

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.

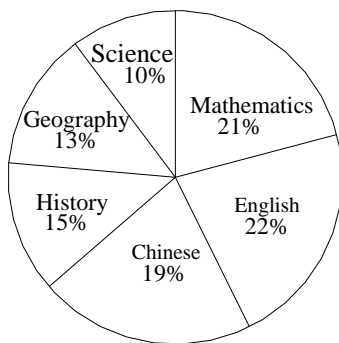


37. Determine whether the following are discrete or continuous data.
 (a) The number of students in each class in a school
 (b) The weight of 40 eggs
38. The following stem-and-leaf diagram shows the heights of 20 students. What is the height of the second tallest student?

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

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



36. Δ _____ \sim Δ _____ 2

Reason: _____ 1

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

38. _____ 2

39. _____ 3

Sub-total:

10

– END OF PAPER –