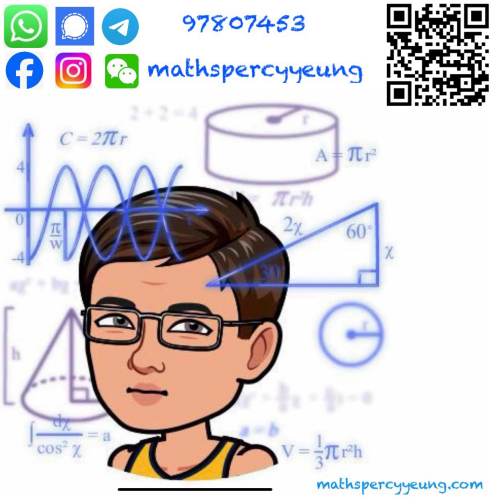
UCCKE F1 2022-23 Final Maths II

Final Examination 2022 - 2023



S.1 Mathematics

Paper 2

Question Paper

27th June, 2023

Time allowed: 30 minutes

INSTRUCTIONS

- This paper consists of ONE section only.
- Attempt ALL questions, using the Multiple Choice Answer Sheet.
- Read carefully the instructions on the Answer Sheet.
- All questions carry equal marks.
- You are advised to use an HB pencil to mark all the answers on the Answer Sheet, so that wrong marks can be completely erased with a clean rubber. You must mark the answers clearly; otherwise you will lose marks if the answers cannot be captured.
- You should mark ONE answer for each question. If you mark more than one answer, you will receive NO MARKS for that question.
- No marks will be deduced for wrong answers.
- The diagrams in this paper are not necessarily drawn to scale.
- Only the calculator with the label 'H.K.E.A.A. Approved' can be used in this examination.

Name: _____

Class: _____( )

Marks (weight: 35%)
/ 20

Section D: Multiple Choice Questions

1. How many negative integers are there between –5.1 and +2.7?

   A. 5
   B. 6
   C. 7
   D. 8

2. Solve the equation $\frac{2-3x}{4} = -4$.

   A. $x = 4$
   B. $x = -4$
   C. $x = 6$
   D. $x = -6$

3. By rounding down each number to the nearest ten, estimate the value of $764 - 89 - 457 + 624$.

   A. 830
   B. 840
   C. 850
   D. 860

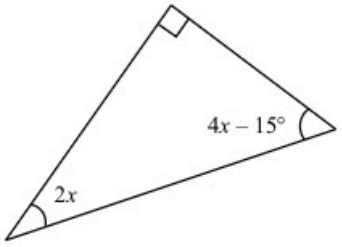
4. $(6h - 8hk) - (8hk - 6h) =$

   A. 0.
   B. $12h$.
   C. $-16hk$.
   D. $12h - 16hk$.

5. The cost price of a dress is \$240. It is sold at a profit of 40%. Find the selling price.

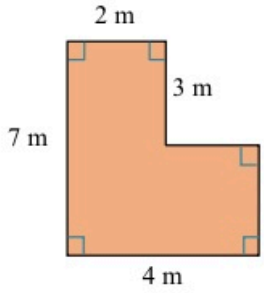
A. \$96
B. \$144
C. \$336
D. \$384

6. In the figure, x =



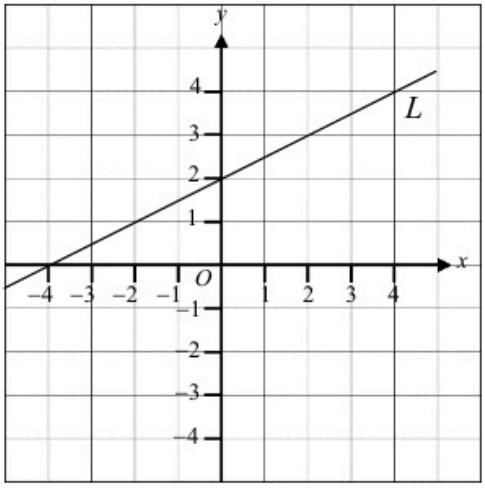
A. 12.5°.
B. 17.5°.
C. 27.5°.
D. 32.5°.

7. The figure shows the base of a right prism of height 0.5 m. Find its total surface area.



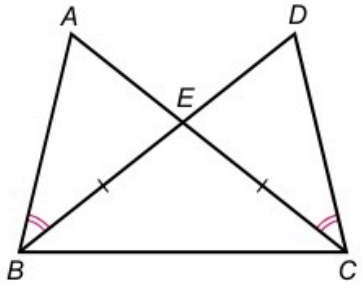
A. 11 m^2
B. 22 m^2
C. 44 m^2
D. 55 m^2

8. In the figure, the straight line L cuts the x-axis at



A. $(-4, 0)$.
B. $(0, -4)$.
C. $(2, 0)$.
D. $(0, 2)$.

9. In the figure, AEC and BED are straight lines. Which of the following must be true?



A. $\triangle ABE$ and $\triangle DCE$ are not congruent.
B. $\triangle ABE \cong \triangle DCE$ (SAS)
C. $\triangle ABE \cong \triangle DCE$ (ASA)
D. $\triangle ABE \cong \triangle DCE$ (AAS)

10. The following stem-and-leaf diagram shows the heights of 20 plants.

Heights of 20 plants

Stem (10 cm)	Leaf (1 cm)							
0	a	8	9					
1	0	2	3	b	3	6	7	9
2	2	5	5	6	9	c		
3	0	2	5					

It is given that the difference between the heights of the tallest and the shortest plants is 28 cm. Then

A. $a = 3, b = 4, c = 9.$
B. $a = 3, b = 4, c = 0.$
C. $a = 7, b = 3, c = 9.$
D. $a = 7, b = 3, c = 0.$

11. The general term of a sequence is $a_n = \dfrac{8}{n^n - 2}$. Find the 4th term of the sequence.

A. $\dfrac{4}{127}$
B. $\dfrac{4}{7}$
C. $\dfrac{1}{32}$
D. $\dfrac{1}{2}$

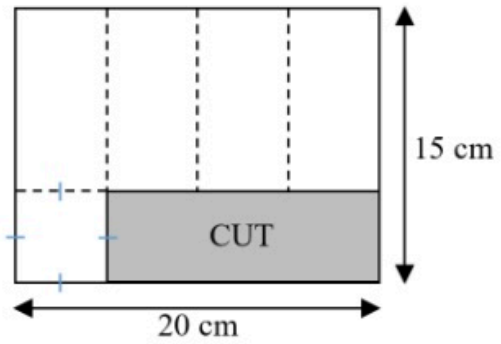
12. If $x \neq 0$, which of the following must be true?

A. $(x^4)^2 = x^{16}$
B. $x^5 \times x^2 = x^{10}$
C. $\dfrac{x^{16}}{x^4} = x^4$
D. $x^{12} \div x^2 = x^{10}$

13. If X is 80% of Y, then Y is

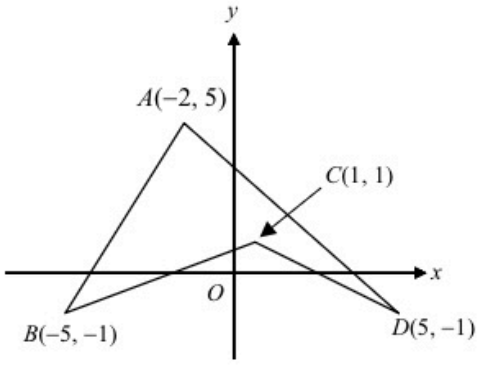
A. 20% of X.
B. 25% of X.
C. 80% of X.
D. 125% of X.

14. Mary has a cardboard of length 20 cm and width 15 cm. She makes a net of a rectangular box with a square base without a lid. She then cuts and folds the net to make the box. Find the capacity of the box.



A. 225 cm^3
B. 250 cm^3
C. 300 cm^3
D. 375 cm^3

15. In the figure, find the area of the quadrilateral $ABCD$.

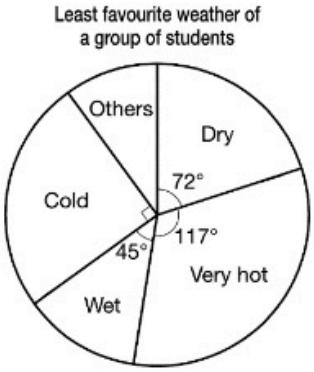


A. 10 square units
B. 20 square units
C. 30 square units
D. 40 square units

16. It is given that $\triangle ABC \cong \triangle DEF$. If $\angle ABC = 67°$ and $\angle EDF = 100°$, find $\angle ACB$.

A. 13°
B. 23°
C. 67°
D. 100°

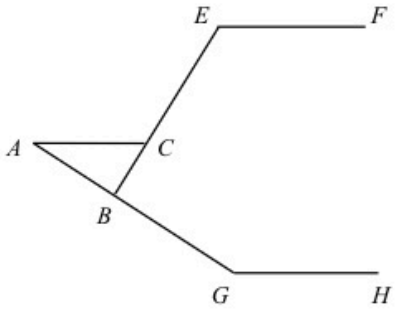
17. The following pie chart shows the least favourite weather of a group of students.



If the difference in the numbers of students who dislike dry weather and wet weather is 30, find the total number of students who were interviewed.

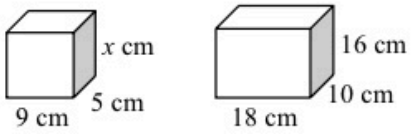
A. 150
B. 240
C. 390
D. 400

18. In the figure, C is a point lying on BE such that $EF \parallel AC \parallel GH$. If $\angle CEF = 123°$ and $\angle BGH = 146°$, then $\angle ABC =$



A. 88°.
B. 89°.
C. 90°.
D. 91°.

19. A solid metal cube of length 15 cm is melted and recast into two solid cuboids as shown in the figure. Find x.



A. 8
B. 11
C. 49
D. 64

20. Which of the following statements must be true?

I. $(-2, 3)$ lies in quadrant II.
II. $(5, 4)$ and $(5, -1)$ lie on the same vertical line.
III. The distance between $(2, m)$ and $(2, 7)$ and the distance between $(m - 7, 3)$ and $(0, 3)$ are both $(m - 7)$ units.

A. I and II only
B. I and III only
C. II and III only
D. I, II and III

END OF PAPER