DEPARTMENT FOR CURRICULUM,
LIFELONG LEARNING AND EMPLOYABILITY
Directorate for Learning and Assessment Programmes

Track 3

Half-Yearly Examinations for Secondary Schools 2020

YEAR 10	**MATHEMATICS** **Non-Calculator Paper**	**TIME: 20 minutes**

Name: _____ Class: _____

Mark

INSTRUCTIONS TO CANDIDATES

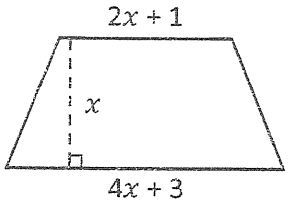
- **Answer all questions.**
- **This paper carries a total of 20 marks.**
- **Calculators and protractors are NOT ALLOWED.**

No.	Question	Space for working if required
1	Write down the next two terms of the sequence: 97, 93, 89, _____, _____	
2	Work out, giving your answer in standard form. $(3.8 \times 10^{-3}) \times (4 \times 10^{-2})$ Answer: _____	
3	Simplify, giving your answer as a single number in index form: $\frac{3^{10}}{3^5 \times 3^7} =$ Answer: _____	
4	Solve the equation: $3y - 4 = 32$ Answer: _____	
5	Evaluate: $25^2 - 15^2$ Answer: _____	
6	Fill in: 2.6×10^7 = _____ million	
7	Which of the following are two factors of 546: **A.** 4 and 7 **B.** 3 and 7 **C.** 3 and 12 **D.** 4 and 13 Answer: _____	
8	Decrease €92 by 10%. Answer: _____	

9 Write the coordinates of the point where the line $y = \frac{1}{3}x - 2$ cuts the y-axis.

Answer: _____

10 Write a simplified expression in terms of x, for the area of this trapezium.



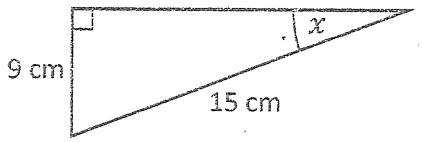
Answer: _____

11 Suggest possible values for x and y such that:

$$a^x \times a^y = 1$$

Answer: x = _____ and y = _____

12 Find the value of Tan x.



Answer: _____

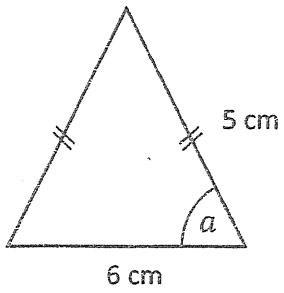
13 The table below shows the amount of money earned by 20 workmen in December.

Amount on Euro	Frequency
$0 < A \leq 500$	3
$500 < A \leq 1000$	4
$1000 < A \leq 1500$	7
$1500 < A \leq 2000$	6

Which **one** of the following statements is correct given the above information?

A. Three workmen earned less than €500.
B. Four workmen earned €800.
C. Thirteen workmen earned €1000 or more.
D. Fourteen workmen earned €1500 or less.

Answer: _____

14	Change 1.2 m^3 to cm^3. Answer: _____	
15	Find the value of x, given that: $3^x = \frac{1}{243}$ Answer: _____	
16	Work out the value of Sin a.  Answer: _____	
17	Find the value of: $(28 \times 2) + (28 \times 98)$ Answer: _____	
18	Find the value of a and b, such that: $(x + 4)^2 = x^2 + ax + b$ Answer: a = _____ and b = _____	
19	The n^{th} term of a sequence is $7n + 2$. Which of the following statements is **false**? **A.** The first term is 9. **B.** The 9th term of the sequence is 65. **C.** The rule between terms is "multipiy by 7". **D.** 37 is a term of the sequence. Answer: _____	
20	The surface area of a cube is 96 cm^2. Find the length of the side of the cube. Answer: _____	

End of Non-Calculator Paper