



Annual Examinations for Secondary Schools 2022

YEAR 11

MATHEMATICS
Non-Calculator Paper

TIME: 20 minutes

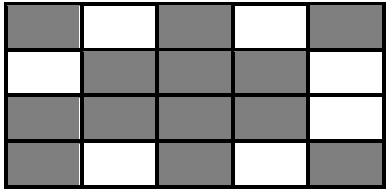
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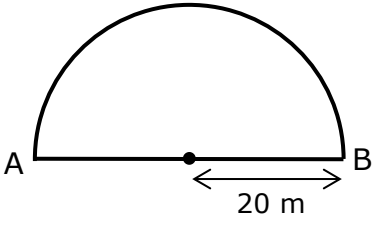
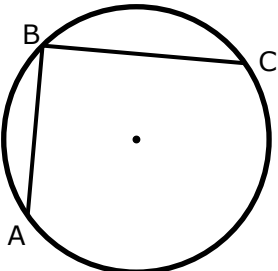
Class: _____

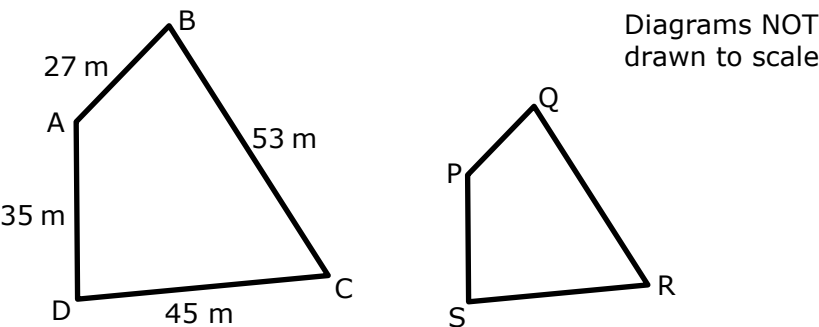
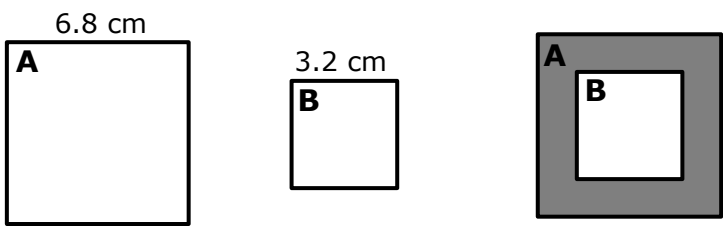
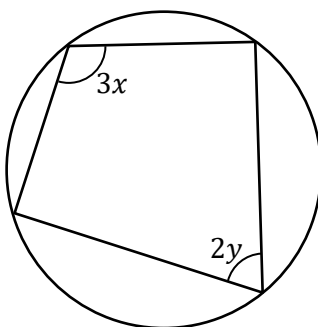
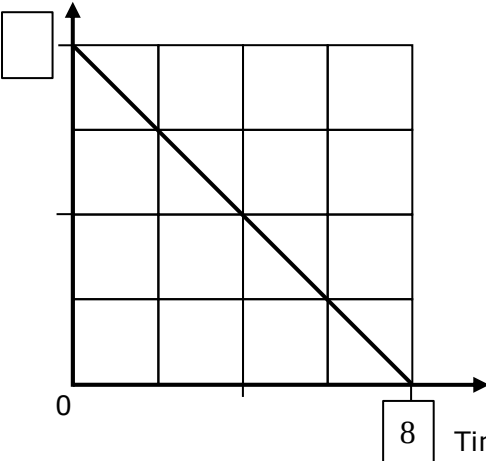
Mark

Instructions to Candidates

- **Answer ALL questions.**
 - **This paper carries a total of 20 marks.**
 - **Calculators and protractors are NOT ALLOWED.**
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No.	Question	Space for working, if required.
1	<p>Write these numbers in order, starting from the smallest:</p> <p style="text-align: center;">1.9, 2.327, 0.9, 0.871</p> <p>Ans: _____, _____, _____, _____.</p>	
2	<div style="text-align: center;"> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px; margin: 2px;">2</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px; margin: 2px;">3</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px; margin: 2px;">7</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 5px; margin: 2px;">9</div> </div> <p>Using the digits above, fill in each box below to form the smallest and the largest possible proper fractions. <i>You can choose a digit more than once.</i></p> <p>Smallest fraction: $\frac{\boxed{}}{\boxed{}}$ Largest fraction: $\frac{\boxed{}}{\boxed{}}$</p>	
3	<p>What is the cost, in euro, of 280 chocolates at 51 cents each?</p> <p style="text-align: right;">Ans: € _____</p>	
4	<p>The average of two salaries is €15 100. One of them is €14 000. How much is the other salary?</p> <p style="text-align: right;">Ans: _____</p>	
5	<p>What percentage is shaded?</p> <div style="text-align: center;">  </div> <p style="text-align: right;">Ans: _____</p>	
6	<p>Write ten thousand in standard form.</p> <p style="text-align: right;">Ans: _____</p>	
7	<p>Fill in the next two terms of the following sequence.</p> <p style="text-align: center;">$\frac{1}{27}, \frac{1}{9}, \frac{1}{3}, \quad, \quad$</p>	
8	<p>Estimate the value of $\sqrt{272.8 - 191.9} - \pi$</p> <p style="text-align: right;">Ans: _____</p>	
9	<p>I leave home at 16:00 and come back at 08:22 of the following day. How much time am I away from home?</p> <p style="text-align: right;">Ans: _____ hours _____ minutes</p>	

10	 <p>Diagram NOT drawn to scale</p> <p>Ailey runs from A to B on a semi-circular track. She then runs back to A in a straight line.</p> <p>What distance does she run? Write your answer in terms of π.</p> <p>Ans: _____</p>	
11	<p>Box A is divided into 24 partitions. Box B is divided into 26 partitions.</p> <p>Toni puts 18 nails into each partition of both boxes.</p> <p>How many nails does Toni have?</p> <p>Ans: _____</p>	
12	<p>What is the median of all the whole numbers from 11 to 36?</p> <p>11, 12, 13, 14,, 34, 35, 36.</p> <p>Ans: _____</p>	
13	<p>Kelsey has €500 in her account. She buys 8 concert tickets over the internet. She now has €328 in her account. How much does each ticket cost?</p> <p>Ans: _____</p>	
14	<p>AB and BC are chords of a circle. AB = 6 cm and BC = 8 cm. How long is the diameter AC?</p>  <p>Diagram NOT drawn to scale</p> <p>Ans: _____</p>	
15	<p>Container A has 3 blue and 2 white marbles. Container B has 4 green and 11 white marbles. Container C has 14 red and 16 white marbles.</p> <p>One marble is picked at random from each container.</p> <p>From which container is there the greatest chance for a white marble to be picked?</p> <p>Container _____</p>	

16	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Diagrams NOT drawn to scale</p> <p>ABCD is an enlargement of PQRS with a scale factor 4. The perimeter of PQRS is: _____.</p> </div> </div>	
17	<div style="display: flex; align-items: center;">  </div> <p>A and B are squares. Calculate the shaded area.</p> <p style="text-align: right;">Ans: _____</p>	
18	<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>A quadrilateral is inscribed in a circle.</p> <p>Write down an expression for y in terms of x.</p> <p>Ans: $y =$ _____</p> </div>  </div>	
19	<p>If $y = 20x^2 + 19$, write down a possible value of x when $y = 99$.</p> <p style="text-align: right;">Ans: $x =$ _____</p>	
20	<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Volume (litres)</p> <div style="border: 1px solid black; width: 30px; height: 30px; margin-bottom: 5px;"></div>  <p style="text-align: right;">Time (mins.)</p> </div> <div style="flex: 1; padding-left: 20px;"> <p>The graph shows the rate of water flowing out of a tank at 4 litres per minute.</p> <p>Fill in the missing value in the vertical axis.</p> </div> </div>	

END OF NON-CALCULATOR PAPER