

Name: \_\_\_\_\_

# DAPTO HIGH SCHOOL



**2008  
School Certificate  
Trial Examination**

## Mathematics

### Section 1

#### **25 Marks**

Time allowed for this section is 30 minutes

Section 1: Questions 1 – 25 25 marks

- Calculators are NOT to be used in this section
- ALL questions are of equal value
- There will be a short break between Section 1 and Section 2
- A formula sheet is provided on page 4 of the Instruction Booklet
- Write your answers in the spaces provided
- Write your student number and/or name on every page

**This paper MUST NOT be removed from the examination room**

STUDENT NUMBER/NAME: .....

Answer the questions in the spaces provided.

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1 What is half of 0.5?

.....  
.....

2 A digital clock reads

**14.30**

How many more hours and minutes are there until midnight?

.....  
.....

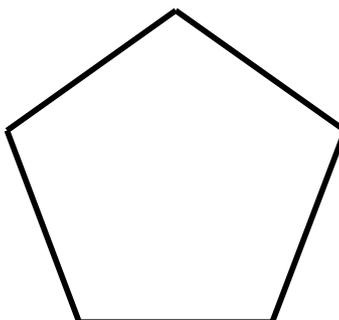
3 What is the name of a triangle with TWO equal sides?

.....  
.....

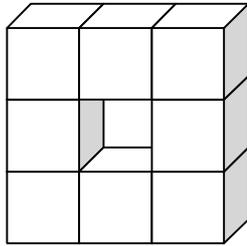
4 Write the ratio 50 mL : 1L in simplest form.

.....  
.....

5 Draw the axes of symmetry on the regular pentagon below.



- 6 Each of the cube blocks has sides of 2cm.



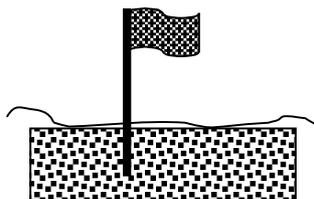
What is the volume of the 8 cubes glued together?

.....  
 .....

- 7 Write a number in the square that makes the statement true.

$$\frac{60 + \square}{5} = 20$$

- 8



The flagpole stands 4 metres out of the ground and is cemented 1 metre underground.

What decimal represents the length of the pole that is underground?

.....  
 .....

9 Each interior angle in a regular polygon of ‘ $n$ ’ sides is given by the formula:

$$\frac{(n - 2) \times 180^\circ}{n}$$

Use this formula to determine the size of the interior angles in a regular hexagon.

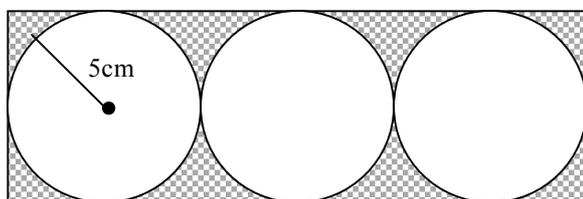
.....  
 .....  
 .....

10 What is the range of the numbers below?

5, -12, -10, 0, -6

.....  
 .....

11



What is the area of the rectangle above?

.....  
 .....

12 David writes the first four lines of a number pattern in his work book:

Ten	→	10	= 1 + 9
One Hundred	→	100	= 2 + 98
One Thousand	→	1000	= 3 + 997
Ten Thousand	→	10000	= 4 + 9996

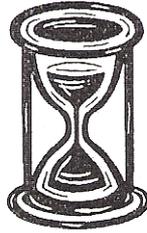
Write the line that begins with “One Million”.

.....

13  $3p - p =$

.....

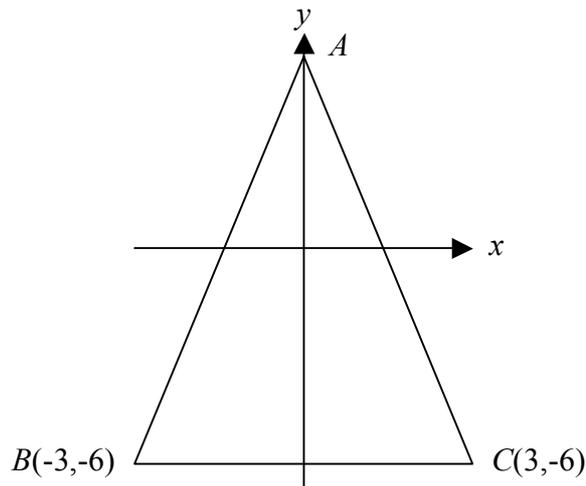
14 The sand in the timer flows at a rate of 3 mg every 2 seconds.



At this rate, how long will it take the 150 mg of sand to flow from the top to the bottom of the timer?

.....  
.....

15 The point  $A$  lies on the  $y$ -axis:

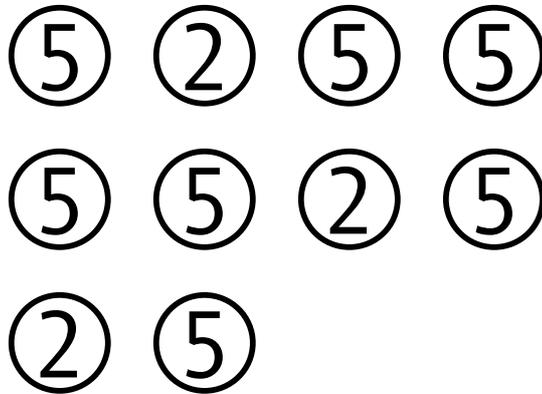


The area of the triangle is 30 square units.

What are the co-ordinates of  $A$ ?

.....  
.....

- 16 A coin with the number 5 on one side and the number 2 on the other side was tossed 12 times and the results showing how the coin landed are below.



Two of the pictures are missing.

It was found that the probability of the coin landing with the '5' on the uppermost face was  $\frac{2}{3}$ .

Draw the TWO pictures missing in the spaces above.

- 17 At an ice cream shop, single cones cost \$2.50 and double cones cost \$3.20. During one morning, the shop sold 10 double cones and some single cones. The shop received \$82 from the sales.

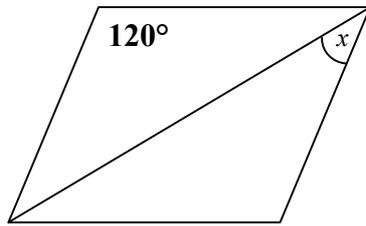
How many single cones were sold during the morning?

.....  
 .....

- 18  $6 - 3(x - 2) =$

.....

- 19 The diagram shows a rhombus with one angle of  $120^\circ$  marked.

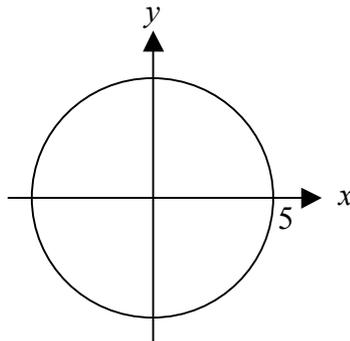


What is the size of the angle marked  $x$  in the diagram?

.....

.....

- 20 A circle with centre  $(0,0)$  is shown in the number plane. The circle passes through the point  $(5,0)$



What is the circumference of the circle shown correct to two decimal places?  
(Use  $\pi = 3.14$ )

.....

.....

- 21 The total of a meal bill in a restaurant was \$130. The guests decided to give a 12% tip to the waiter.



How much was the tip?

.....

.....

- 22 Jaime and Petra share \$500 so that Jaime has \$120 more than Petra.

What amount will Jaime receive?

.....  
 .....  
 .....

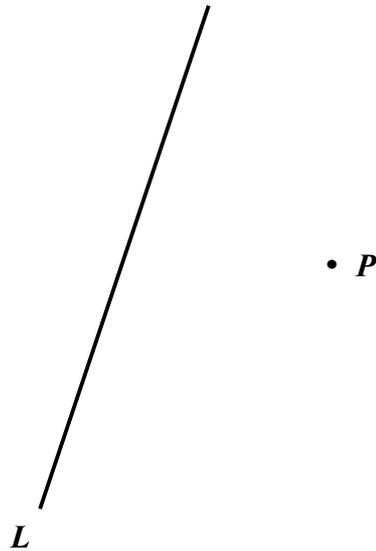
- 23 A positive integer  $a$  and a negative integer  $b$  have values described by the statements:

$$a < 3 \quad \text{and} \quad b > -5$$

Write down a possible value for  $ab$ .

.....  
 .....

- 24 Using geometrical instruments, mark a position on the line  $L$  with the letter  $Z$  that is the shortest distance from  $P$ .



- 25 Complete the statement by writing down the values of  $p$  and  $q$ .

$$(2y^3)^p = 16y^q$$

$p =$  .....

$q =$  .....

**End of Section 1**