# Subject Requirements for PSLE

## MATHEMATICS


# OUTLINE

- PSLE Math topics and format
- Primary Math Curriculum Framework
- Types of PSLE questions
- Example of PSLE questions
- Study tips

# PSLE Topics

| Standard Mathematics | Foundation Mathematics |
|---|---|
| 1. Whole Numbers, Fractions and Decimals | 1. Whole Numbers, Fractions and Decimals |
| 2. Measurement | 2. Measurement |
| 3. Data Analysis | 3. Data Analysis |
| 4. Geometry | 4. Geometry |
| 5. Speed | 5. Percentage |
| 6. Ratio; Percentage | 6. Triangle, Squares and Rectangles |
| 7. Algebra | 7. Pie Charts |
| 8. Pie Charts | 8 Volume |
| 9. Nets | |

# PSLE Format (Standard Math)

| Paper | Booklet | Item Type | No. of questions | No. of marks per question | Total marks | Duration |
|---|---|---|---|---|---|---|
| 1 | A | Multiple-choice | 10 | 1 | 10 | 1 h |
| | | | 5 | 2 | 10 | |
| | B | Short-Answer | 5 | 1 | 5 | |
| | | | 10 | 2 | 20 | |
| 2 | | Short-Answer | 5 | 2 | 10 | 1 h 30 min |
| | | Structured/ Long-Answer | 12 | 3, 4 or 5 | 45 | |
| Total | | | 47 | - | 100 | 2 h 30 min |

Note:

- The use of an approved calculator is allowed in Paper 2 but not in Paper 1.

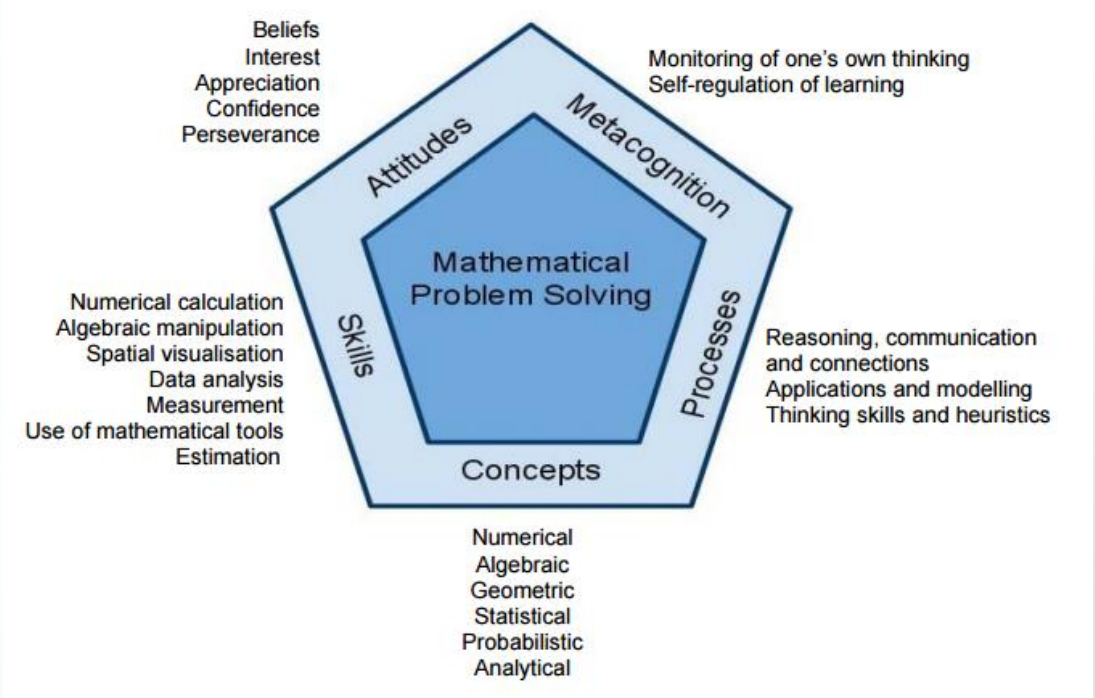
# PSLE Format (Foundation Math)

| Paper | Booklet | Item Type | No. of questions | No. of marks per question | Total marks | Duration |
|---|---|---|---|---|---|---|
| 1 | A | Multiple-choice | 10 | 1 | 10 | 1 h |
| | | | 10 | 2 | 20 | |
| | B | Short-Answer | 10 | 2 | 20 | |
| 2 | | Short-Answer | 10 | 2 | 20 | 1 h |
| | | Structured | 6 | 3 or 4 | 20 | |
| Total | | | 46 | - | 90 | 2 h |

Note:

- The use of an approved calculator is allowed in Paper 2 but not in Paper 1.

# Singapore Math Curriculum Framework



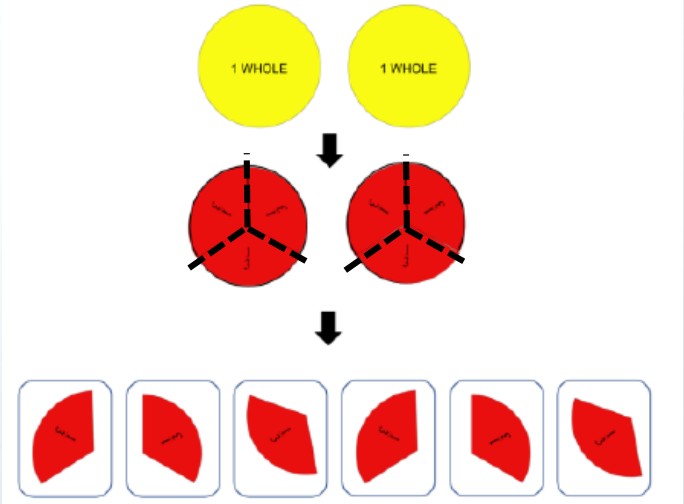
# Emphasis on Math Processes

- Mathematical communication in the concept of division of fractions

$$2 \div \frac{1}{3} = 2 \text{ x} \frac{3}{1} = 6$$

How many groups of $\frac{1}{3}$ are there in 2 wholes?

Ans: 6



# Types of questions

- **Recall and perform computation**

Recall mathematical facts, concepts, rules and formulae; perform straightforward computations

- **Understand and apply**

Interpret information; understand and apply mathematical concepts and skills in a variety of contexts.

- **Reason and analyse**

Reason mathematically; analyse information and make inferences; select appropriate strategies to solve problems

**Topics: Numbers (Decimals)**
**Item type: Recall concepts**

In the number 43.21, which digit is in the tens place?

(1) 1

(2) 2

(3) 3

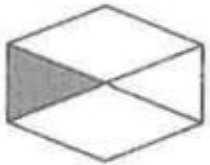
(4) 4

**Ans: 4**

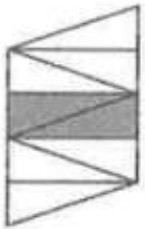
## Topics: Numbers (Fractions)
## Item type: Recall facts and concepts

Which of the following shows $\frac{1}{4}$ of the figure shaded?

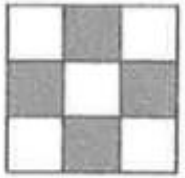
(1)



(2)



(3)



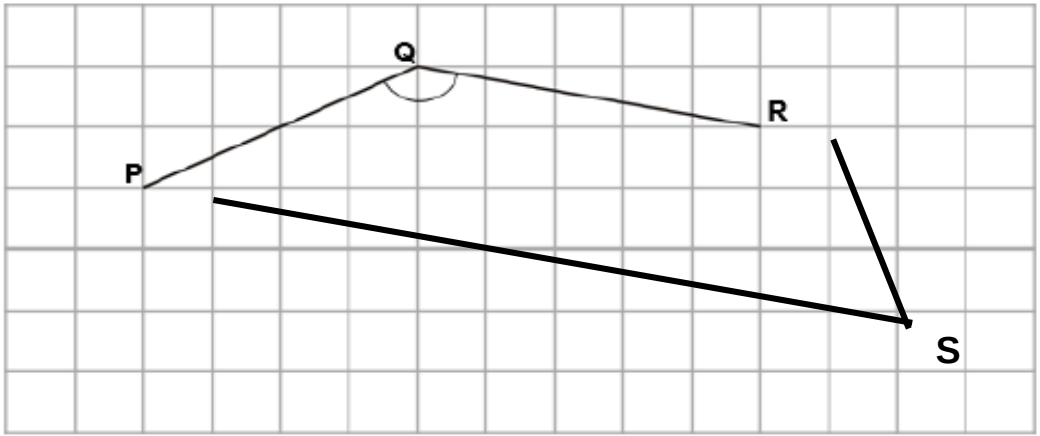
(4)

**Ans: 3**

## Topics: Geometry (Quadrilaterals)

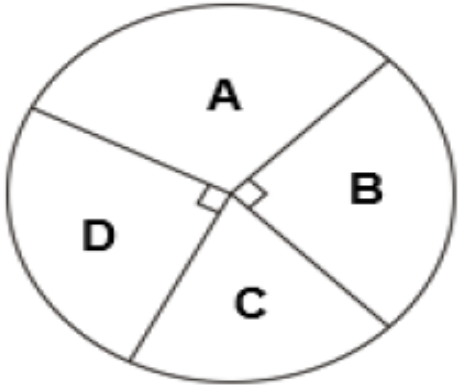
## Item type: Understand and apply mathematical concept

PQ and QR form two sides of a trapezium PQRS.
PS is parallel to QR. PS is twice the length of QR.
Complete the drawing of trapezium PQRS.

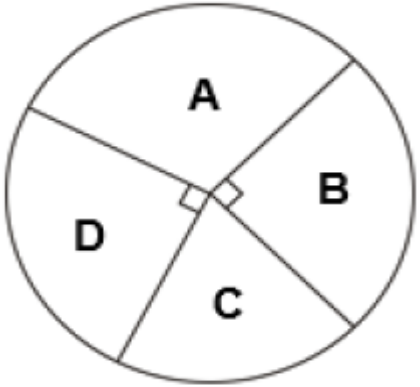


## Topics: Data analysis (Pie chart and graph)
## Item type: Understand and apply mathematical concept

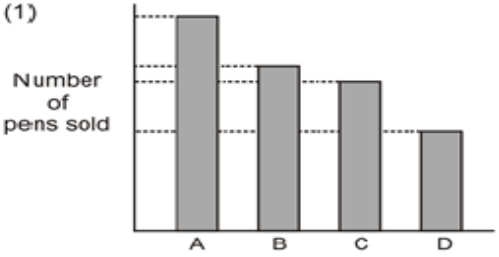
The pie chart shows the number of four types of pens sold by a shop last week.



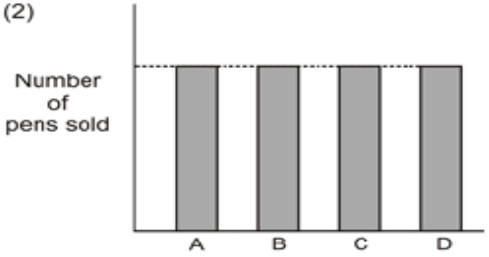

Which bar graph best represents the information in the pie chart?


A
B
C
D

(1)


Number of pens sold
A
B
C
D

(2)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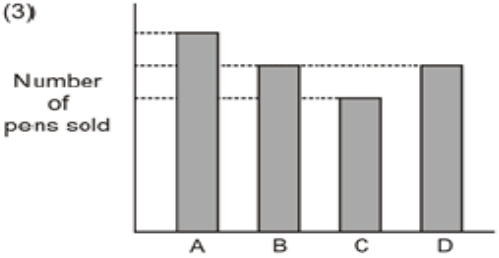
(3)


Number of pens sold
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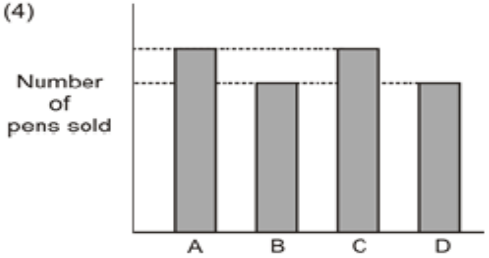
Number of pens sold
A
B
C
D

**Ans: 3**

## Topics: Numbers
## Item type: Understand and apply mathematical concept

Lucy had an equal number of gold stars and silver stars. She gave 26 gold stars and 14 silver stars to Maggie. She gave the remaining stars to Nick. Nick was given 1 gold star for every 3 silver stars. How many stars did Lucy have at first?

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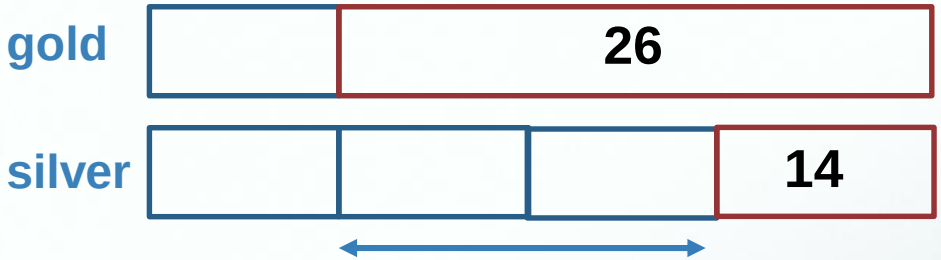



Strategy: work backwards

2 units = 26 – 14
= 12

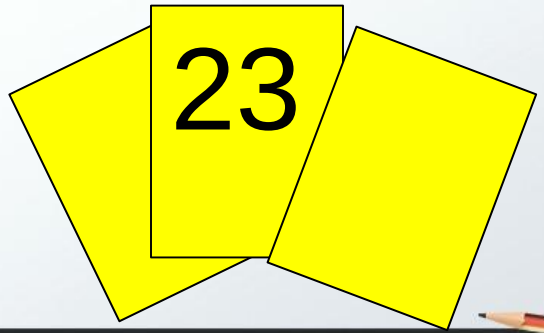
1 unit = 6

4 units + 26 + 14 = 24 + 26 + 14
= 64

Lucy had 64 stars at first.

**Topics: Numbers**
**Item type: Analyse information, apply appropriate strategies**

Each of the three cards shown is printed with a different whole number. The smallest number is 23. When these numbers are added two at a time, the sums are 61, 71 and 86. What is the largest number on the cards?



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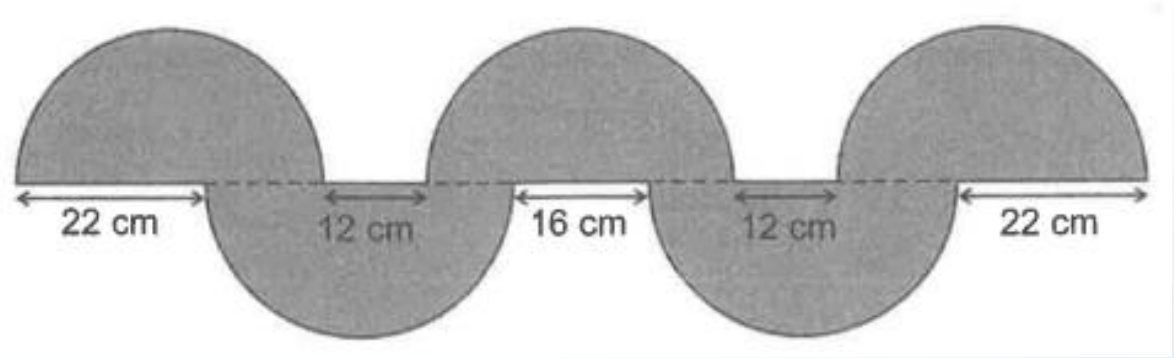
__ + __ = 61
__ + __ = 71
__ + __ = 86

Mathematical reasoning:
In order to get 71, you need to add the smallest and the biggest number

71 – 23 = 48
The largest number is 48.


## Item type: Analyse information, apply appropriate strategies

The figure is formed by 5 identical semicircles.




(a) What is the diameter of each semicircle?

(b) Use the calculator value of π to find the perimeter of the figure. (round your answer to 2 decimal places)

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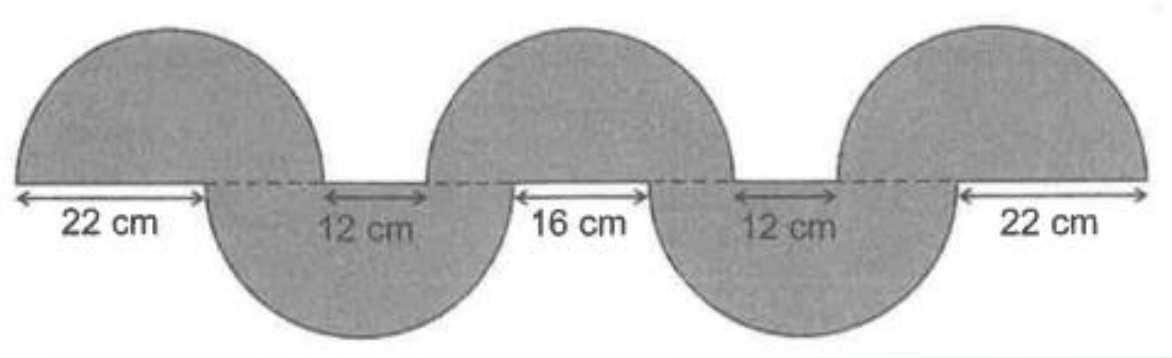


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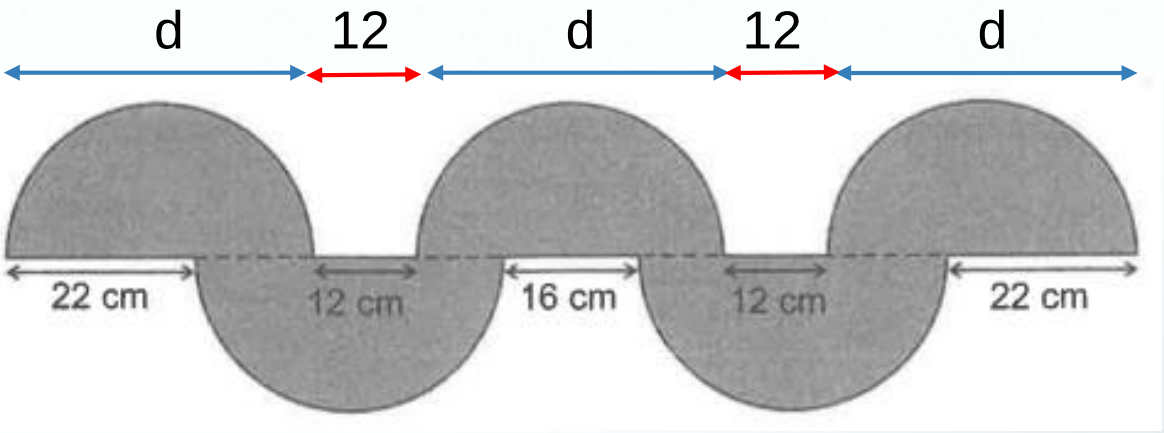
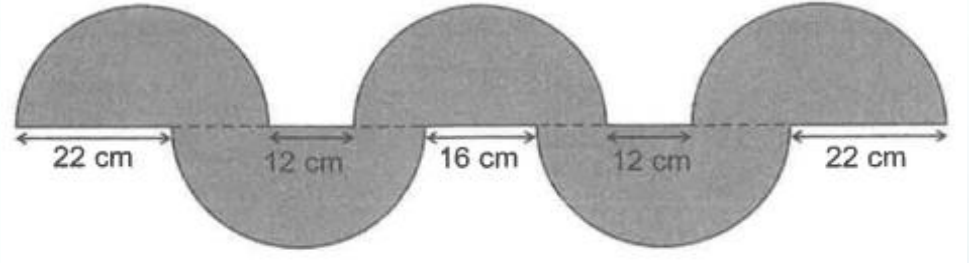
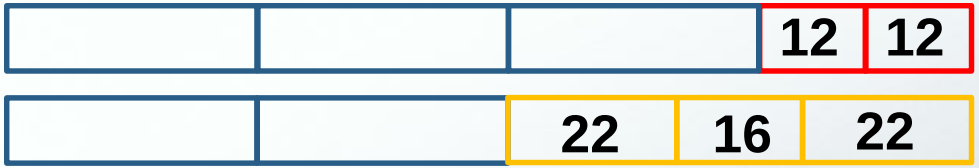



22 d 16 d 22

(a) What is the diameter of each semicircle?

(b) Use the calculator value of π to find the perimeter of the figure. (round your answer to 2 decimal places)




(a) d = (22 + 16 + 22) – (12 + 12)
= 60 – 24
= 36 cm

(b) Perimeter of 5 semicircle
= 5 x ½ x π x 36
= 90π cm

90π + 60 + 24
≈ 366.74 cm
(2 decimal places)

# How To Do Well In Examination

- Annotate important information in the problem, e.g. underline key words
- Do not dwell too long on a question. Skip questions when unsure of the approach to solving them and return to complete them later on.
- Attempt all questions.
- Show all the Math equations and workings.
- Familiarise the functions required in calculators.
- Check the accuracy of the work, e.g. number transfer, unit of measurements, calculation.

# Common Mistakes Made By Students

1. Transfer error
   Example: 9 x $12 = $108

   $100 ÷ 2 = $50

2. Wrong use of equal sign
   Example: Mr Tan spent $\frac{2}{5}$ of his money.
   He spent $12.

$\frac{2}{5} = 12$

*They are not equal*
*Use '→' or '----' sign instead*

# Common Mistakes Made By Students

3. Writing incorrect Math equations

Example: 20 + 10 = 30 + 5 = 35

not equal

(Wrong equations as the 2 steps are combined into one)

4. Omission or incorrect units of measurement

Example: 1 km = 100 m (Wrong Fact)

# How Parents Can Support Their Child

- Monitor the homework completion
  * Get your child to present his / her work clearly and systematically
- Encourage your child to have regular revision
  * Re-attempt questions where corrections have been done for previous mistakes
  * Get the formula right, e.g. Area (rectangle) = L x B
  * Commit certain facts into memory, e.g. 0.5 = ½ = 50%
- Build time management skills
  * When doing a timed practice, get your child to complete the practice within the given time

# Thank you

For further queries, you may consult your child’s Math teacher.