

PSLE FOUNDATION MATHEMATICS

EXAMINATION FORMAT

Duration of Paper

The time allocation for the paper is 2 hours.

Format of Paper

The examination consists of one written paper comprising two booklets.

- Booklet A contains multiple-choice questions.
- Booklet B contains short-answer and structured questions.

Booklet	Item type	Number of questions	Number of marks per question	Weighting
A	Multiple-choice	10	1	10%
		10	2	20%
B	Short-answer	20	2	40%
	Structured	8	3,4,5	30%
Total		48	-	100%

The multiple-choice and short-answer questions will assess basic concepts and skills. Questions will generally be short, simple and straightforward in nature.

The structured questions will include questions that assess application of concepts and skills.

HELPFUL TIPS/HINTS

TIPS for Booklet A – Multiple-choice

- Questions 1 to 10 carry 1 mark each.
- Questions 11 to 20 carry 2 marks each.
- Booklet A should be completed within **30 minutes**.

TIPS for Booklet B – Short answer section

- Questions 21 to 40 carry 2 marks each
- Questions 21 to 40 in Booklet B should be completed within **40 minutes**

TIPS for Booklet B – Structured section

- Marks for Questions 41 to 48 vary, usually indicated at the end of each question.
- Questions 41 to 48 in Booklet B should be completed within **40 minutes**

SAMPLE QUESTIONS

Booklet A – Multiple-choice

Sample Question 1

Which of the following numbers is a common multiple of 5 and 7?

- | | |
|-------|--------|
| (1) 3 | (3) 35 |
| (2) 7 | (4) 57 |

Sample Question 2

If 8 chicken pies cost \$4, how much does 1 chicken pie cost?

- | | |
|------------|------------|
| (1) \$0.40 | (3) \$0.60 |
| (2) \$0.50 | (4) \$0.70 |

Booklet B – Short answer section

Sample Question 1

Mrs Shah can sew 3 buttons in 10 minutes. At this rate, how many buttons can she sew in 1 h 20 min?

Sample Question 2

There are 300 primary one pupils in a school. 180 of them are girls. What percentage of the primary one pupils are boys?

Sample Question 3

Mr Ashok leaves home at 8.30am. He returns home at 6.45pm. How long is he away from home? (Give your answer in hours and minutes.)

Booklet B – Structured section

Sample Question 1

A jewellery shop has 300 items. 120 of them are bangles, $\frac{2}{5}$ of the remaining items are chains and the rest are rings.

- What fraction of the items are bangles? (1m)
- How many of the items are rings? (2m)

Sample Question 2

Kelly had 4 kg of sugar. She gave 20% of the sugar to Doreen.

- How many grams of sugar did Kelly give to Doreen? (2m)
- Doreen poured 40% of the sugar into Pot A and the rest into Pot B.

How many grams of sugar were poured into Pot B? (2m)

Sample Question 3

Nora has a piece of ribbon 500cm long. She uses $\frac{2}{5}$ of it to tie a present and $\frac{3}{5}$ of the remaining to tie a bouquet of flowers.

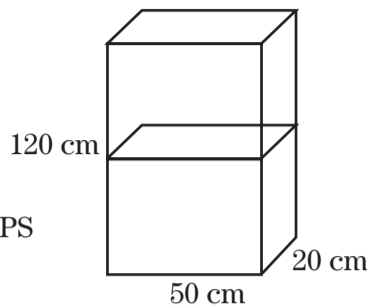
- What is the length of the ribbon that she uses to tie the present? (1m)
- What is the length of the remaining piece of

ribbon? (Give your answer in metres.) (2m)

Sample Question 4

A rectangular tank containing 40 litres of water is shown below (not drawn to scale).

- Find the height of the water level in the tank. (1 litre = 1000cm³) (2m)
- How many more litres of water are needed to fill the tank completely? (3m)



WORKED SOLUTIONS & TIPS

Booklet A – Multiple-choice

Sample Question 1

Which of the following numbers is a common multiple of 5 and 7?

- | | | |
|-------|--------|-----------|
| (1) 3 | (3) 35 | Ans : (3) |
| (2) 7 | (4) 57 | |

Tip: The easiest way to find common multiple is to multiply the 2 numbers. $5 \times 7 = 35$

Sample Question 2

If 8 chicken pies cost \$4, how much does 1 chicken pie cost?

- | | | |
|------------|------------|-----------|
| (1) \$0.40 | (3) \$0.60 | Ans : (2) |
| (2) \$0.50 | (4) \$0.70 | |

Tip: When dividing, student should re-write \$4 as \$4.00 so that it can be divided easily

Booklet B – Short answer section

Sample Question 1

Mrs Shah can sew 3 buttons in 10 minutes. At this rate, how many buttons can she sew in 1 h 20 min?

Method

1 h 20 mins \rightarrow 80 mins
 $80\text{min} \div 10\text{min} = 8$
 8×3 (buttons) = 24

Answer; She can sew 24 buttons.

Common Mistakes:

- Some students forget that 1 hour has 60 mins not 100 mins. So they get 120 mins instead of 80 mins.
- Some students forget to multiply by 3 and stop at the answer 8 instead of getting 24.

Sample Question 2

There are 300 primary one pupils in a school. 180 of them are girls. What percentage of the primary one pupils are boys?

Method

$300 - 180 = 120$ (boys)
 $\frac{120}{300} \times 100\% = 40\%$
 300

Answer; 40% of the primary one pupils are boys.

Common Mistake:

Some students forget that this is a question on percentage and just stop at 120 without changing it to a percentage.

Sample Question 3

Mr Ashok leaves home at 8.30am. He returns home at 6.45pm. How long is he away from home? (Give your answer in hours and minutes.)

Method

The easiest way is to count the hours

1	8.30 to 9.30	1 hour
2	9.30 to 10.30	1 hour
3	10.30 to 11.30	1 hour
4	11.30 to 12.30	1 hour
5	12.30 to 1.30	1 hour
6	1.30 to 2.30	1 hour
7	2.30 to 3.30	1 hour
8	3.30 to 4.30	1 hour
9	4.30 to 5.30	1 hour
10	5.30 to 6.30	1 hour
	6.30 to 6.45	15 mins

Tip: This is a straightforward question but don't forget to include the last 15 minutes.

Answer; Total 10 hours and 15 minutes

Booklet B – Structured section

Sample Question 1

A jewellery shop has 300 items. 120 of them are bangles, $\frac{2}{5}$ of the remaining items are chains and the rest are rings.

- What fraction of the items are bangles? (1m)
- How many of the items are rings? (2m)

Method

a) 120 out 300 are bangles
 $\frac{120}{300} = \frac{12}{30}$
 $= \frac{2}{5}$

Common mistakes / Tip:

- Remember to reduce to simplest form.
- Students tend to forget to minus $\frac{3}{5}$ from $\frac{2}{5}$ to get the remainder which are rings.

Answer; $\frac{2}{5}$ are bangles

- Remainder $\rightarrow 300 - 120 = 180$
 Chains $\rightarrow \frac{2}{5}$ of 180
 Rings $\rightarrow 1 - \frac{2}{5} = \frac{3}{5}$
 $\rightarrow \frac{3}{5} \times 180 = 108$

Answer; There were 108 rings

Method 2
 Chains $\rightarrow \frac{2}{5} \times 180 = 72$
 Rings $\rightarrow 180 - 72 = 108$

Sample Question 2

Kelly had 4 kg of sugar. She gave 20% of the sugar to Doreen.

- How many grams of sugar did Kelly give to Doreen? (2m)
- Doreen poured 40% of the sugar into Pot A and the rest into Pot B.
 How many grams of sugar were poured into Pot B? (2m)

Method

a) 4 kg = 4000 g
 $\frac{20}{100} \times 4000 \text{ g} = 800 \text{ g}$

Common mistake/Tip:

- Remember to change kg to g.
- Some students forget to deduct 40% to get the amount of sugar poured into Pot B.

Answer; Kelly gave Doreen 800 g of sugar.

- $100\% - 40\% = 60\%$ (poured into Pot B)
 60% of 800 g was poured into Pot B
 $\frac{60}{100} \times 800 = 480$

Answer; 480 g of sugar was poured into Pot B.

Sample Question 3

Nora has a piece of ribbon 500cm long. She uses $\frac{2}{5}$ of it to tie a present and $\frac{3}{5}$ of the remaining to tie a bouquet of flowers.

- What is the length of the ribbon that she uses to tie the present? (1m)
- What is the length of the remaining piece of ribbon? (Give your answer in metres.) (2m)

Method

a) $\frac{2}{5}$ of 500cm = 200cm

Answer; She used 200 cm to tie the present

- $500 - 200 = 300$ (remainder)
 $\frac{3}{5} \times 300 = 180$ (tie bouquet of flowers)

Common mistake:

- Students tend to overlook the requirement to give the answer in metres.

$300 - 180 = 120$ cm

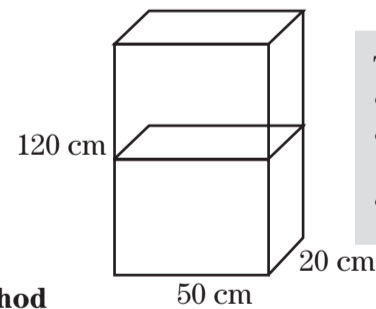
$120 \div 100 = 1.2$ m

Answer; The length of the remaining ribbon is 1.2 metres

Sample Question 4

A rectangular tank containing 40 litres of water is shown below (not drawn to scale).

- Find the height of the water level in the tank. (1 litre = 1000cm³) (2m)
- How many more litres of water are needed to fill the tank completely? (3m)



Tips:

- Volume = L x B x H
- Height = $\frac{\text{Volume}}{\text{Area}}$
- 1 litre = 1000 cm³

Method

a) Area of the base $\rightarrow 50\text{cm} \times 20\text{cm} = 1000 \text{ cm}^2$
 Volume of water $\rightarrow 40 \text{ litres} = 40000 \text{ cm}^3$
 Height $\rightarrow \frac{\text{Volume}}{\text{Area}}$

$\rightarrow \frac{40000}{1000} = 40$

Answer; The height of the water level is 40 cm

Method 1

b) The water level in the tank is 40cm.
 $120\text{cm} - 40\text{cm} = 80\text{cm}$ (unfilled)
 $80\text{cm} \times 50\text{cm} \times 20\text{cm} = 80000 \text{ cm}^3$
 $80000 \text{ cm}^3 \div 1000 \text{ cm}^3 = 80 \text{ litres}$

Method 2

b) Volume of the tank $\rightarrow 50 \times 20 \times 120 = 120000 \text{ cm}^3$
 It is filled with 40000 cm³ of water.
 Amount of water to make it full = $120000 - 40000 = 80000 \text{ cm}^3$
 $80000 \text{ cm}^3 \div 1000 \text{ cm}^3 = 80 \text{ litres}$

Answer; 80 litres of water are needed to fill the tank.

Common mistake:

- Some students overlook the requirement to give the answer in litres.