

2014
Paper 1 Booklet A

1. (3)

The digit 7 in the hundredths place is greater than 5. Hence, the digit 1 in the tenths place is rounded up to 2. The resulting answer is 70.2.

2. (1)

The length of a bed for an adult is most likely to be 2 m.

3. (3)

$\angle PQR = 90^\circ$ ($\angle$ s of a rectangle)
 $\angle TQS = 90^\circ - 15^\circ - 40^\circ$
 $= 35^\circ$

4. (1)

Cost of 20 pencils $\rightarrow \$5$
 Cost of each pencil $\rightarrow \$5 \div 20$
 $= \$0.25$
 $= 25\text{¢}$

5. (4)

Amount of money he spent altogether
 $\rightarrow \$12 + \$8 + \$10$
 $= \$30$
 Required fraction $\rightarrow \frac{\$12}{\$30}$
 $= \frac{2}{5}$

6. (3)

When $w = 2$,
 $\frac{21w}{10} - w + 1 = \frac{21 \times 2}{10} - 2 + 1$
 $= \frac{42}{10} - 2 + 1$
 $= 4.2 - 2 + 1$
 $= 2.2 + 1$
 $= 3.2$

7. (4)

The car would be travelling in the south-east direction after it turned into Road M.

8. (4)

Container A: 160 ml
 Container B: 150 ml (least)
 Container C: 0.2 l = 200 ml (most)

9. (1)

Amount of money she spent to buy the cloth
 $\rightarrow \$4y - \y
 $= \$3y$
 Length of cloth she bought
 $\rightarrow \$3y \div \$7/\text{m}$
 $= \frac{3y}{7} \text{ m}$

10. (2)

Option (1): $\frac{7 \div 7}{21 \div 7} = \frac{1}{3}$

Option (2): $\frac{1 \times 6}{3 \times 6} = \frac{6}{18} < \frac{6}{17}$

Option (3): $\frac{4}{13} < \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$

Option (4): $\frac{3}{11} < \frac{1 \times 3}{3 \times 3} = \frac{3}{9}$

11. (4)

Factors of 60: 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30 and 60
 Factors of 75: 1, 3, 5, 15, 25 and 75

Since Weili wanted to pack the apples and pears into as many bags as possible, we need to choose the largest common factor of both 60 and 75.

Largest common factor $\rightarrow 15$
 Hence, Weili should use 15 bags.
 Number of apples in each bag
 $\rightarrow 60 \div 15$
 $= 4$

PSLE Mathematics – Answers

12. (3)

$$\begin{aligned} \text{Area of X} &\longrightarrow 4 \times 2 \\ &= 8 \text{ square units} \end{aligned}$$

$$\begin{aligned} \text{Area of Y} &\longrightarrow \frac{1}{2} \times 4 \times 3 \\ &= 6 \text{ square units} \end{aligned}$$

The height of Z is approximately the length of 3.5 squares.

$$\begin{aligned} \text{Area of Z} &\longrightarrow \frac{1}{2} \times 4 \times 3.5 \\ &= 7 \text{ square units} \end{aligned}$$

The areas of X, Y and Z from the smallest area to the largest area is Y, Z, X.

13. (2)

$$100\% - 25\% = 75\%$$

$$75\% \longrightarrow \$60$$

$$1\% \longrightarrow \frac{\$60}{75}$$

$$\begin{aligned} 25\% &\longrightarrow 25 \times \frac{\$60}{75} \\ &= \$20 \end{aligned}$$

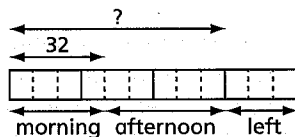
$$\begin{aligned} 100\% &\longrightarrow 100 \times \frac{\$60}{75} \\ &= \$80 \end{aligned}$$

$$\begin{aligned} \text{Total discount given to senior citizens} &\longrightarrow \$20 + \$12 \\ &= \$32 \end{aligned}$$

Total percentage discount given to senior citizens

$$\begin{aligned} &\longrightarrow \frac{\$32}{\$80} \times 100\% \\ &= 40\% \end{aligned}$$

14. (3)



$$4 \text{ units} \longrightarrow 32 \text{ computers}$$

$$\begin{aligned} 1 \text{ unit} &\longrightarrow 32 \div 4 \\ &= 8 \text{ computers} \end{aligned}$$

$$\begin{aligned} 9 \text{ units} &\longrightarrow 9 \times 8 \\ &= 72 \text{ computers} \end{aligned}$$

72 computers were sold altogether.

15. (2)

Since ABC and PQR are identical right-angled triangles, then BC = 15 cm.

Area of $\triangle ABC$

$$\begin{aligned} &\longrightarrow \frac{1}{2} \times 15 \text{ cm} \times 10 \text{ cm} \\ &= 75 \text{ cm}^2 \end{aligned}$$

Area of each shaded part

$$\begin{aligned} &\longrightarrow 96 \text{ cm}^2 \div 2 \\ &= 48 \text{ cm}^2 \end{aligned}$$

Area of the unshaded part

$$\begin{aligned} &\longrightarrow 75 \text{ cm}^2 - 48 \text{ cm}^2 \\ &= 27 \text{ cm}^2 \end{aligned}$$

Paper 1 Booklet B

$$\begin{array}{r} 0.9\overset{9}{\cancel{1}}\overset{10}{0} \cdot \overset{12}{2}\overset{10}{3}\overset{10}{0} \\ - 0.99 \\ \hline 9.31 \end{array}$$

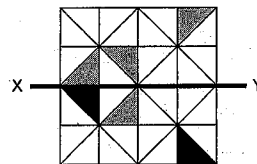
The value is 9.31.

$$\begin{aligned} 17. \quad 2 - \frac{2}{3} - \frac{3}{4} &= \frac{24}{12} - \frac{8}{12} - \frac{9}{12} \\ &= \frac{7}{12} \end{aligned}$$

$$\begin{aligned} 18. \quad \angle y &= 360^\circ - 140^\circ - 30^\circ \text{ (}\angle\text{s at a point)} \\ &= 190^\circ \end{aligned}$$

$$\begin{aligned} 19. \quad \frac{2 \times 4}{25 \times 4} &= \frac{8}{100} \\ &= 0.08 \end{aligned}$$

20.



21. PS and QR

22. PT and RT
23. Total distance he walked
 $\rightarrow 450 \text{ m} + 450 \text{ m}$
 $= 900 \text{ m}$
 Average walking speed
 $\rightarrow 900 \text{ m} \div 10 \text{ min}$
 $= 90 \text{ m/min}$
24. Length of DE = 7.8 cm
25. $\angle FDE = 113^\circ$
26. (a) When a number is a multiple of 5, the number must end with a 0 or 5.
 Smallest multiple of 5
 $\rightarrow 2685$
- (b) Number closest to 6000
 $\rightarrow 5862$
27. Number of boxes of 15 mangoes
 $\rightarrow 60 \div 15$
 $= 4$
 Total cost $\rightarrow 4 \times \$10$
 $= \$40$
 5 units $\rightarrow \$40$
 1 unit $\rightarrow \$40 \div 5$
 $= \$8$
 The cost for the smallest share was \$8.
28. 4-digit number $\rightarrow 260 \times 4$
 $= 1040$
 Correct answer $\rightarrow 1040 \div 5$
 $= 208$
29. Multiples of 5:
 1 2 3 4 5 6 7 8 9 10
 5, 10, 15, 20, 25, 30, 35, 40, 45, 50,
 11 12 13 14 15 16 17 18
 55, 60, 65, 70, 75, 80, 85, 90, ...

Multiples of 3:

3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, ...

Possible number of cookies (plus 36)

 1 2 3 4 5 6 7 8 9 10
 39, 42, 45, 48, 51, 54, 57, 60, 63, 66,
 11 12 13 14 15 16 17 18
 69, 72, 75, 78, 81, 84, 87, 90, ...

Ismail has 90 cookies.

30. Area of the unshaded part
 $\rightarrow 4 - 1$
 $= 3 \text{ units}$
 Area of the shaded parts
 $\rightarrow 16 - 3$
 $= 13 \text{ units}$
 Fraction of the figure shaded
 $\rightarrow \frac{13}{16}$

Paper 2

1. Total of the 9 numbers
 $\rightarrow 9 \times 140$
 $= 1260$
 Total of the other 8 numbers
 $\rightarrow 1260 - 180$
 $= 1080$
 $1080 \div 8 = 135$
 The average of the other 8 numbers is 135.
2. Number of bottles Kai collected
 $\rightarrow 2 \times 2m$
 $= 4m$
 Number of bottles Lat collected
 $\rightarrow 4m - 7$
 $2m + 4m + 4m - 7 = 10m - 7$
 They collected $(10m - 7)$ bottles altogether.

PSLE Mathematics – Answers

3. Time he took to answer the first 10 questions

$$\longrightarrow 10 \times 3 \text{ min}$$

$$= 30 \text{ min}$$

Number of remaining questions

$$\longrightarrow 30 - 10$$

$$= 20$$

Time he took to answer each of the remaining 20 questions

$$\longrightarrow 2 \times 3 \text{ min}$$

$$= 6 \text{ min}$$

Time he took to answer the remaining 20 questions

$$\longrightarrow 20 \times 6 \text{ min}$$

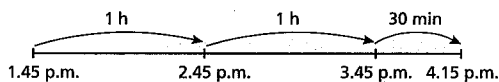
$$= 120 \text{ min}$$

Total time he took to complete the quiz

$$\longrightarrow 30 \text{ min} + 120 \text{ min}$$

$$= 150 \text{ min}$$

$$= 2 \text{ h } 30 \text{ min}$$



He completed the quiz at **4.15 p.m.**

4. Number of male students

$$\longrightarrow 16\% \times 50$$

$$= \frac{16}{100} \times 50$$

$$= 8$$

Number of female students

$$\longrightarrow 10\% \times 70$$

$$= \frac{10}{100} \times 70$$

$$= 7$$

Total number of students

$$\longrightarrow 8 + 7$$

$$= 15$$

Total number of members

$$\longrightarrow 50 + 70$$

$$= 120$$

$$\frac{15}{120} \times 100\% = 12.5\%$$

12.5% of the members are students.

5. Fraction of the stickers that are orange

$$\longrightarrow \frac{3}{10} \div 2$$

$$= \frac{3}{20}$$

$$1 - \frac{3}{10} - \frac{3}{20} = \frac{11}{20}$$

$\frac{11}{20}$ of the stickers are blue.

6. (a) Number of box files sold

$$\longrightarrow 35$$

Number of clear files sold

$$\longrightarrow 85$$

Number of ring files sold

$$\longrightarrow 55$$

Number of clip files sold

$$\longrightarrow 25$$

Total number of files sold

$$\longrightarrow 35 + 85 + 55 + 25$$

$$= 200$$

$$\frac{25}{100} = \frac{1}{8}$$

$\frac{1}{8}$ of the files sold were clip files.

- (b) Amount of money collected from the sale of box files

$$\longrightarrow 35 \times \$3$$

$$= \$105$$

Amount of money collected from the sale of clear files

$$\longrightarrow 85 \times \$1.40$$

$$= \$119$$

Amount of money collected from the sale of ring files

$$\longrightarrow 55 \times \$2.20$$

$$= \$121$$

Amount of money collected from the sale of clip files

$$\longrightarrow 25 \times \$4$$

$$= \$100$$

The shop collected the most from the sale of **ring files** and the amount of money collected was **\$121**.

7. (a) $\angle FEB = 180^\circ - 70^\circ$ ($\angle$ s on a str. line)
 $= 110^\circ$

$\angle ABE$
 $= 360^\circ - 110^\circ - 90^\circ - 55^\circ$ (sum of
 $\angle$ s in a quad)
 $= 105^\circ$

(b) $\angle EBD$
 $= 180^\circ - 105^\circ$ ($\angle$ s on a str. line)
 $= 75^\circ$
 $\angle BDC = 75^\circ$ (alt. $\angle$ s, $EB \parallel DC$)
 $\angle CBD$
 $= 360^\circ - 75^\circ - 105^\circ - 115^\circ$ ($\angle$ s at
a point)
 $= 65^\circ$
 $\angle BCD$
 $= 180^\circ - 75^\circ - 65^\circ$ (sum of $\angle$ s in a $\triangle$)
 $= 40^\circ$

8. Both Dan and Ellen did not change their speeds throughout.

Since Dan reached the end point 5 min before Ellen, this would mean that Dan reached the halfway point ($5 \div 2 =$) 2.5 min before Ellen.

Ellen's speed $\rightarrow 300 \text{ m} \div 2.5 \text{ min}$
 $= 120 \text{ m/min}$

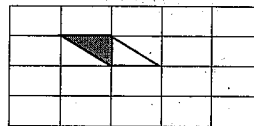
Time Dan took to reach the end point
 $\rightarrow 2 \times 35 \text{ min}$
 $= 70 \text{ min}$

Time Ellen took to reach the end point
 $\rightarrow 70 \text{ min} + 5 \text{ min}$
 $= 75 \text{ min}$

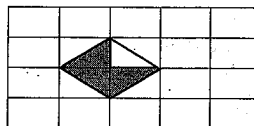
$120 \text{ m/min} \times 75 \text{ min} = 9000 \text{ m}$

The distance of the route was **9000 m**.

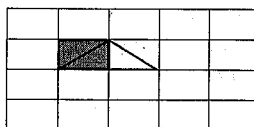
9.



Parallelogram



Rhombus



Trapezium

10. (a) Number of cakes sold in April
 $\rightarrow 650$

Number of cakes sold in May
 $\rightarrow 900$

$900 - 650 = 250$

250 more cakes were sold in May than in April.

- (b) Number of cakes sold in January
 $\rightarrow 200$

Number of cakes sold in June
 $\rightarrow 950$

Increase $\rightarrow 950 - 200$
 $= 750$

$\frac{750}{200} \times 100\% = 375\%$

The percentage increase in the number of cakes sold in June compared to January was **375%**.

PSLE Mathematics – Answers

11. Amount of money she saved on a weekday
 $\rightarrow \$3 - \2.60
 $= \$0.40$
 Amount of money saved weekly
 $\rightarrow 5 \times \$0.40 + 2 \times \3
 $= \$8$
 Number of weeks
 $\rightarrow \$50 \div \8
 $= 6 \text{ R } (\$2)$
 Number of weekdays she took to save \$2
 $\rightarrow \$2 \div \0.40
 $= 5$
 $6 \times 7 + 5 = 47$

It took her **47 days** to save \$50.

12. Length of each tile
 $\rightarrow$ Breadth of 3 tiles
 Breadth of 4 tiles $\rightarrow 60 \text{ cm}$
 Breadth of 1 tile $\rightarrow 60 \text{ cm} \div 4$
 $= 15 \text{ cm}$
 Length of 1 tile $\rightarrow 3 \times 15 \text{ cm}$
 $= 45 \text{ cm}$

18 m = 1800 cm

Number of sets of 4 tiles

$\rightarrow 1800 \text{ cm} \div 45 \text{ cm}$

$= 40$

$40 \times 4 = 160$

160 tiles were used to cover the entire path.

13. Long rulers 
 Short rulers 

27 units $\rightarrow 540 \text{ rulers}$

1 unit $\rightarrow 540 \div 27$

$= 20 \text{ rulers}$

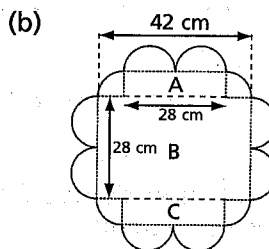
7 units $\rightarrow 7 \times 20$

$= 140 \text{ rulers}$

The total number of rulers left was **140**.

14. (a) The perimeter of the mat is formed by the circumferences of $(8 \times 2 + 4 =) 20$ quarter circles.
 Circumference of a quarter circle
 $\rightarrow \frac{1}{4} \times 2 \times \frac{22}{7} \times 7 \text{ cm}$
 $= 11 \text{ cm}$
 $20 \times 11 \text{ cm} = 220 \text{ cm}$

The perimeter of the mat is **220 cm**.



Area of A $\rightarrow 28 \text{ cm} \times 7 \text{ cm}$
 $= 196 \text{ cm}^2$

Area of B $\rightarrow 42 \text{ cm} \times 28 \text{ cm}$
 $= 1176 \text{ cm}^2$

Area of C $\rightarrow 196 \text{ cm}^2$

Area of the 4 quarter circles

$\rightarrow 4 \times (\frac{1}{4} \times \frac{22}{7} \times 7 \text{ cm} \times 7 \text{ cm})$
 $= 154 \text{ cm}^2$

Area of the 8 semicircles

$\rightarrow 8 \times (\frac{1}{2} \times \frac{22}{7} \times 7 \text{ cm} \times 7 \text{ cm})$
 $= 616 \text{ cm}^2$

$196 \text{ cm}^2 + 1176 \text{ cm}^2 + 196 \text{ cm}^2 + 154 \text{ cm}^2 + 616 \text{ cm}^2 = 2338 \text{ cm}^2$

The area of the mat is **2338 cm²**.

15. (a) Difference between the number of buns Aini and Usha made
 $\rightarrow 40 - 10$
 $= 30$
 $1.1 \text{ kg} = 1100 \text{ g}$
 Mass of dough needed for 30 buns
 $\rightarrow 1100 \text{ g} - 50 \text{ g}$
 $= 1050 \text{ g}$
 $1050 \text{ g} \div 30 = 35 \text{ g}$
 The mass of dough needed for each bun was 35 g.

- (b) Total mass of the remaining dough
 $\rightarrow 1100 \text{ g} + 50 \text{ g}$
 $= 1150 \text{ g}$
 $1150 \text{ g} \div 35 = 32 \text{ R } (30 \text{ g})$

32 more such buns can be made at most.

16. (a) We choose the 1st book to be the one priced at \$10 and the 2nd book to be the one priced at \$8.
 Selling price of the 1st book
 $\rightarrow 90\% \times \10
 $= \frac{90}{100} \times \10
 $= \$9$
 Selling price of the 2nd book
 $\rightarrow 80\% \times \8
 $= \frac{80}{100} \times \8
 $= \$6.40$
 $\$9 + \$6.40 = \$15.40$

She paid **\$15.40** for them.
 (Note: \$15.40 is a better answer as most shops tend to charge a higher sales price.)

Alternatively:

We choose the 1st book to be the one priced at \$8 and the 2nd book to be the one priced at \$10.

Selling price of the 1st book

$$\rightarrow 90\% \times \$8$$

$$= \frac{90}{100} \times \$8$$

$$= \$7.20$$

Selling price of the 2nd book

$$\rightarrow 80\% \times \$10$$

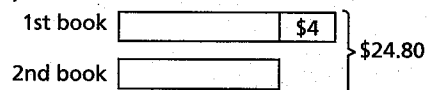
$$= \frac{80}{100} \times \$10$$

$$= \$8$$

$$\$7.20 + \$8 = \$15.20$$

She paid **\$15.20** for them.

(b)



$$2 \text{ units} \rightarrow \$24.80 - \$4$$

$$= \$20.80$$

$$1 \text{ unit} \rightarrow \$20.80 \div 2$$

$$= \$10.40$$

$$80\% \rightarrow \$10.40$$

$$100\% \rightarrow 100 \times \frac{\$10.40}{80}$$

$$= \$13$$

The price of the 2nd book before discount was **\$13**.

17. (a) $3 \times \frac{12}{4} = 9$

9 large stars can be made.

PSLE Mathematics – Answers

- (b) 4 small stars $\rightarrow$ 3 large stars
 12 small stars $\rightarrow$ 9 large stars
 12 small stars + 7 large stars
 $\rightarrow$ 960 cm

9 large stars + 7 large stars
 $\rightarrow$ 960 cm

16 large stars $\rightarrow$ 960 cm

1 large star $\rightarrow$ $960 \div 16$
 $= 60$ cm

3 large stars $\rightarrow$ 3×60 cm
 $= 180$ cm

4 small stars $\rightarrow$ 180 cm

1 small star $\rightarrow$ $180 \div 4$
 $= 45$ cm

Number of large stars she still needs to make

$\rightarrow 20 - 7$
 $= 13$

Number of small stars she still needs to make

$\rightarrow 14 - 12$
 $= 2$

$(13 \times 60 \text{ cm}) + (2 \times 45 \text{ cm})$
 $= 870$ cm

The length of wire she needs to make the remaining stars is **870 cm**.

18. (a) $(60 \text{ cm} \times 12 \text{ cm}) + 2 \times (60 \text{ cm} \times 30 \text{ cm}) + 2 \times (30 \text{ cm} \times 12 \text{ cm})$
 $= 5040 \text{ cm}^2$

The painted area is **5040 cm²**.

- (b) (i) Volume of the rectangular box

$\rightarrow 60 \times 12 \times 30$
 $= 21\,600 \text{ cm}^3$

Volume of 1 1-cm cube

$\rightarrow 1 \times 1 \times 1$
 $= 1 \text{ cm}^3$

$21\,600 \text{ cm}^3 \div 1 \text{ cm}^3$
 $= 21\,600$

There are **21 600 cubes**.

- (ii) Number of cubes that touch the base only

$\rightarrow 58 \times 10$
 $= 580$

Number of cubes that touch one of the lateral sides only

$\rightarrow 2 \times (29 \times 10) + 2 \times (58 \times 29)$
 $= 3944$

Number of cubes that touch the base and one of the lateral sides

$\rightarrow (2 \times 58) + (2 \times 10)$
 $= 136$

Number of cubes that touch the base and two of the lateral sides

$\rightarrow 4 \times 30$
 $= 120$

$580 + 3944 + 136 + 120$
 $= 4780$

4780 cubes touch the inside of the box.