WA2 Revision Paper

Fractions, angles, area, perimeter and data

30 marks | Suggested time: 50 minutes | No calculator

Answer all questions. Show working for Sections B and C. Give fractions in their simplest form. Diagrams are not drawn to scale.

Section A | 6 × 1 mark

1. What must be added to $\frac{5}{6}$ to make $1\frac{1}{4}$? [1]

(1) $\frac{1}{12}$ (2) $\frac{1}{3}$

(3) $\frac{5}{12}$ (4) $\frac{7}{12}$

Answer:

2. How much greater is $\frac{5}{8}$ than $\frac{7}{12}$? [1]

(1) $\frac{1}{24}$ (2) $\frac{1}{12}$

(3) $\frac{1}{8}$ (4) $\frac{1}{6}$

Answer:

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3. A jug contains 2 $\frac{1}{6}$ litres of water. After $\frac{3}{4}$ litre is poured out, how much remains? [1]

(1) 1 $\frac{1}{12}$ litres

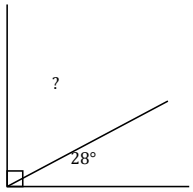
(2) 1 $\frac{5}{12}$ litres

(3) 1 $\frac{7}{12}$ litres

(4) 1 $\frac{11}{12}$ litres

Answer:

4. The figure shows a right angle divided into two angles. Find the angle marked ?. [1]



(1) 28°

(2) 52°

(3) 62°

(4) 72°

Answer:

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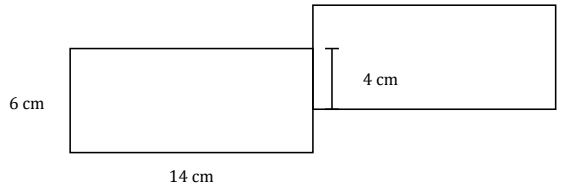
5. Two identical rectangles, each 14 cm by 6 cm, share a 4 cm edge segment. Find the perimeter of the combined figure. [1]



(1) 40 cm

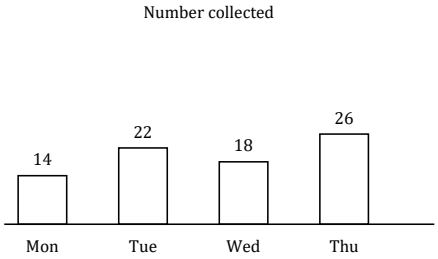
(2) 68 cm

(3) 72 cm

(4) 76 cm

Answer:

6. The graph shows bottles collected on four days. The target for five days is 100 bottles. How many more bottles are needed on Friday? [1]



(1) 18

(2) 20

(3) 22

(4) 26

Answer:

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Section B | 6 × 2 marks

7. A 3 m ribbon is used to make two bows requiring $\frac{5}{6}$ m and $\frac{7}{8}$ m. Find the ribbon length left. [2]

Answer:

8. Of the pupils in a club, $\frac{3}{7}$ are girls. There are 28 boys. How many girls are there? [2]

Answer:

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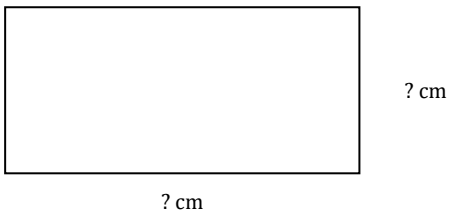
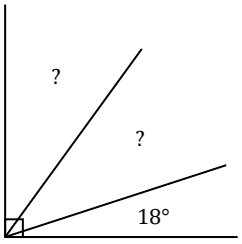
9. A rectangle has perimeter 54 cm. Its length is 3 cm greater than its breadth. Find its area. [2]



Answer:

10. A right angle is divided into three angles. One is 18° and the other two are equal. Find each of the equal angles. [2]



Answer:

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11. Two identical cakes are each treated as one whole. $\frac{3}{8}$ of the first cake and $\frac{1}{4}$ of the second are eaten. How much cake is left altogether? [2]

Answer:

12. Ravi spends $\frac{3}{8}$ of his money and puts $\frac{1}{4}$ of his original money into his savings box. He has $30 outside the box. How much money did he have at first? [2]

Answer:

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Section C | 3 × 4 marks

13. A baker makes cheese, curry and plain buns. $\frac{3}{8}$ are cheese buns and $\frac{1}{4}$ are curry buns. [4]
There are 54 plain buns.

(a) How many buns are made altogether? [2]

(b) The baker sells 18 cheese buns and 12 plain buns. No curry buns are sold. How many more plain buns than curry buns are left? [2]

Answer:

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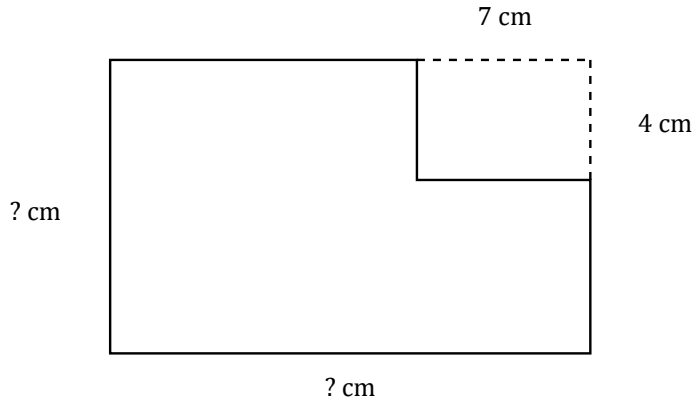
14. A rectangular card has perimeter 70 cm. Its length is 7 cm greater than its breadth. A 7 cm by 4 cm rectangle is removed from its top-right corner as shown. [4]

(a) Find the breadth of the original card. [2]

(b) Find the area of the remaining card. [2]



Answer:

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15. Two classes have the same number of pupils. In Class A, $\frac{3}{4}$ of the pupils pass a quiz. In Class B, $\frac{5}{6}$ pass. Altogether, 38 pupils pass. [4]

(a) How many pupils are in each class? [2]

(b) How many pupils fail the quiz altogether? [2]

Answer:

WA2 Worked Solutions

1. $\frac{5}{12}$

Correct option: (3)

$1\frac{1}{4} = \frac{15}{12}$; $\frac{5}{6} = \frac{10}{12}$.

Difference = $\frac{5}{12}$.

2. $\frac{1}{24}$

Correct option: (1)

$\frac{5}{8} = \frac{15}{24}$ and $\frac{7}{12} = \frac{14}{24}$.

Difference = $\frac{1}{24}$.

3. $1\frac{5}{12}$ litres

Correct option: (2)

$2\frac{1}{6} = 2\frac{2}{12}$.

$2\frac{2}{12} - \frac{9}{12} = 1\frac{5}{12}$ litres.

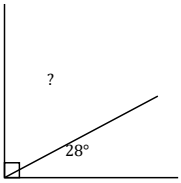
WA2 Worked Solutions

4. 62°

Correct option: (3)

A right angle is 90°.

Missing angle = 90° - 28° = 62°.



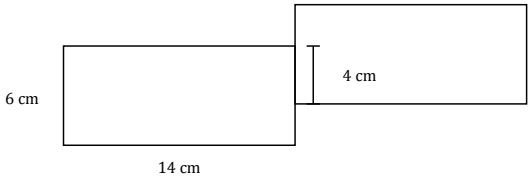
5. 72 cm

Correct option: (3)

Each rectangle has perimeter 2 × (14 + 6) = 40 cm.

The shared 4 cm is counted twice in 80 cm.

Combined perimeter = 80 - 8 = 72 cm.

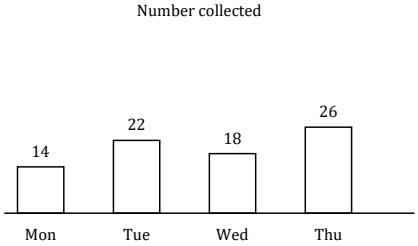


6. 20

Correct option: (2)

Total so far = 14 + 22 + 18 + 26 = 80.

Friday needs 100 - 80 = 20 bottles.



WA2 Worked Solutions

7. $1\frac{7}{24}$ m

Used = $\frac{20}{24} + \frac{21}{24} = 1\frac{17}{24}$ m.

Left = $3 - 1\frac{17}{24} = 1\frac{7}{24}$ m.

8. 21 girls

Boys form $\frac{4}{7}$, or 4 units.

1 unit = 28 ÷ 4 = 7 pupils.

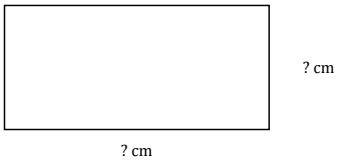
Girls = 3 × 7 = 21.

9. 180 cm^2

Length + breadth = 54 ÷ 2 = 27 cm.

Two breadths = 27 - 3 = 24 cm. Breadth = 12 cm.

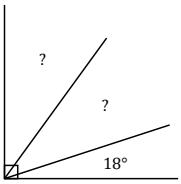
Length = 15 cm. Area = 15 × 12 = 180 cm^2.



WA2 Worked Solutions

10. 36°

The two equal angles total 90° - 18° = 72°.
Each equal angle = 72° ÷ 2 = 36°.



11. $1\frac{3}{8}$ cakes

Eaten = $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$ cake.
Left = $2 - \frac{5}{8} = 1\frac{3}{8}$ cakes.

12. $80

Fraction outside the box = $1 - \frac{3}{8} - \frac{2}{8} = \frac{3}{8}$.
3 units = $30. 1 unit = $10.
Original amount = 8 × $10 = $80.

WA2 Worked Solutions

13. (a) 144 buns; (b) 6 buns

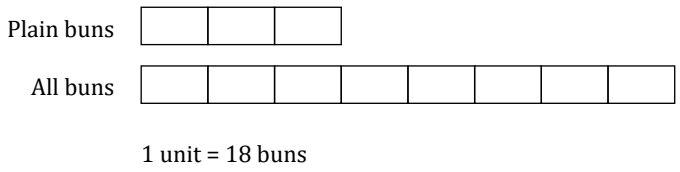
Plain fraction = $1 - \frac{3}{8} - \frac{2}{8} = \frac{3}{8}$.

3 units = 54 buns, so 1 unit = 18 buns.

Total = 8 × 18 = 144 buns. [2]

Plain left = 54 - 12 = 42.

Curry buns = 2 × 18 = 36. Difference = 42 - 36 = 6. [2]



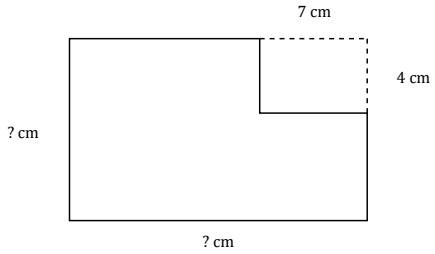
14. (a) 14 cm; (b) 266 cm^2

Length + breadth = 70 ÷ 2 = 35 cm.

Two breadths = 35 - 7 = 28 cm. Breadth = 14 cm. [2]

Length = 14 + 7 = 21 cm.

Remaining area = 21 × 14 - 7 × 4 = 294 - 28 = 266 cm^2. [2]

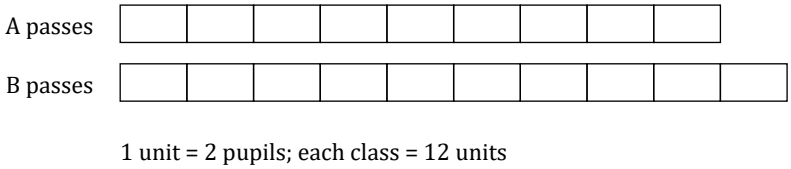


15. (a) 24 pupils; (b) 10 pupils

Represent each class by 12 equal units.

Passes: Class A has 9 units and Class B has 10 units.

19 units = 38 pupils, so 1 unit = 2 pupils.

Each class has 12 × 2 = 24 pupils. [2]

Total pupils = 24 × 2 = 48. Failures = 48 - 38 = 10. [2]