WA1 Revision Paper

Whole numbers, order of operations and fractions

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 is the smallest whole number that rounds to 6 400 000 when rounded to the nearest hundred thousand? [1]

(1) 6 300 001 (2) 6 350 000

(3) 6 399 999 (4) 6 450 000

Answer:

2. Find the value of 720 ÷ (18 - 6) × 4 + 15. [1]

(1) 30 (2) 75

(3) 195 (4) 255

Answer:

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3. A number is multiplied by 8, then 360 is subtracted. The result is 1240. What is the number? [1]

(1) 110 (2) 155

(3) 200 (4) 245

Answer:

4. Which fraction lies between $\frac{2}{3}$ and $\frac{3}{4}$? [1]

(1) $\frac{5}{8}$ (2) $\frac{17}{24}$

(3) $\frac{19}{24}$ (4) $\frac{5}{6}$

Answer:

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5. Ten identical pies are shared equally among 6 children. Each child eats $\frac{1}{2}$ pie. How much pie does each child have left? [1]

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

(2) $1\frac{1}{6}$ pies

(3) $1\frac{1}{3}$ pies

(4) $2\frac{1}{6}$ pies

Answer:

6. A number leaves remainder 5 when divided by 9. What remainder will twice the number leave when divided by 9? [1]

(1) 0

(2) 1

(3) 5

(4) 8

Answer:

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Section B | 6 × 2 marks

7. Find the missing number: 960 ÷ (___ - 8) = 24. [2]

Answer:

8. A factory packs 7865 buttons in boxes of 24. What is the least number of extra buttons needed so that every box used is full? [2]

Answer:

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9. Calculate $5\frac{1}{4} - 1\frac{5}{6} - \frac{7}{8}$. [2]

Answer:

10. The sum of three consecutive whole numbers is 14 406. Find the greatest of the three numbers. [2]

Answer:

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11. A strip of paper is $4\frac{1}{2}$ m long. After two pieces of lengths $1\frac{5}{6}$ m and $1\frac{7}{12}$ m are cut off, what length remains? [2]

Answer:

12. A library buys 36 cartons of 125 exercise books. It gives 1884 books to one school and packs the rest equally into 24 boxes. How many books are in each box? [2]

Answer:

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Section C | 3 × 4 marks

13. A museum sells 48 tickets. Adult tickets cost $18 each and child tickets cost $11 each. It collects $647. [4]

(a) How many adult tickets are sold? [2]

(b) Five children exchange their tickets for adult tickets and pay the difference. Find the new total amount collected. [2]

Answer:

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14. Asha and Ben have the same amount of money at first. Asha spends $\frac{3}{8}$ of her money. Ben spends $98. Asha then has 5 times as much money left as Ben. How much money does each have at first? [4]

Answer:

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15. Box A has $\frac{2}{3}$ as many counters as Box B. After 18 counters are moved from B to A, the boxes have equal numbers. [4]

(a) How many counters are in A at first? [2]

(b) All the counters now in B are packed into bags holding at most 12 counters each. Find the least number of bags needed. [2]

Answer:

WA1 Worked Solutions

1. 6 350 000

Correct option: (2)

The halfway point between 6 300 000 and 6 400 000 is 6 350 000.

It rounds up to 6 400 000.

2. 255

Correct option: (4)

18 - 6 = 12.

720 ÷ 12 × 4 + 15 = 60 × 4 + 15 = 255.

3. 200

Correct option: (3)

Before subtracting: 1240 + 360 = 1600.

Number = 1600 ÷ 8 = 200.

WA1 Worked Solutions

4. $\frac{17}{24}$

Correct option: (2)

$\frac{2}{3} = \frac{16}{24}$; $\frac{3}{4} = \frac{18}{24}$.

$\frac{17}{24}$ lies between them.

5. $1\frac{1}{6}$ pies

Correct option: (2)

Each receives $10 \div 6 = 1\frac{2}{3}$ pies.

$1\frac{2}{3} - \frac{1}{2} = 1\frac{1}{6}$ pies.

6. 1

Correct option: (2)

Twice the remainder is $5 \times 2 = 10$.

$10 = 9 + 1$, so the new remainder is 1.

WA1 Worked Solutions

7. 48

The divisor is 960 ÷ 24 = 40.

Missing number = 40 + 8 = 48.

8. 7 buttons

24 × 327 = 7848; remainder = 17.

An extra 24 - 17 = 7 buttons completes the last box.

9. $2\frac{13}{24}$

Use twenty-fourths: $5\frac{6}{24} - 1\frac{20}{24} = 3\frac{10}{24}$.

$3\frac{10}{24} - \frac{21}{24} = 2\frac{13}{24}$.

WA1 Worked Solutions

10. 4803

Middle number = 14 406 ÷ 3 = 4802.
The greatest is 4802 + 1 = 4803.

11. $1\frac{1}{12}$ m

Pieces cut: $1\frac{10}{12} + 1\frac{7}{12} = 3\frac{5}{12}$ m.
Remaining: $4\frac{6}{12} - 3\frac{5}{12} = 1\frac{1}{12}$ m.

12. 109 books

Total = 36 × 125 = 4500.
Remaining = 4500 - 1884 = 2616.
2616 ÷ 24 = 109 books.

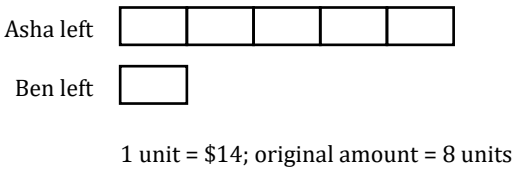
WA1 Worked Solutions

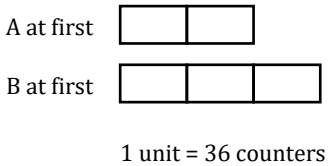
13. (a) 17; (b) $682

If all were child tickets: 48 × $11 = $528.
Extra collected = $647 - $528 = $119.
Each adult adds $18 - $11 = $7. Adults = 119 ÷ 7 = 17. [2]
Five exchanges add 5 × $7 = $35.
New total = $647 + $35 = $682. [2]

14. Each has $112

Represent each original amount by 8 equal units.
Asha has 5 units left. Since this is 5 times Ben's amount, Ben has 1 unit left.
Ben spends 8 - 1 = 7 units, worth $98.
1 unit = $98 ÷ 7 = $14. Original amount = 8 × $14 = $112.



15. (a) 72; (b) 8 bags

The initial difference is 18 × 2 = 36 counters.
A has 2 units and B has 3 equal units. 1 unit = 36.
A originally has 2 × 36 = 72 counters. [2]
B now has 3 × 36 - 18 = 90 counters.
90 ÷ 12 = 7 remainder 6, so 8 bags are needed. [2]