WA1 Revision Paper

Whole numbers, factors, multiples 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. Use the digits 0, 2, 4, 6 and 8 once each. What is the greatest five-digit number that rounds to 86 000 to the nearest thousand? [1]

(1) 86 024 (2) 86 240

(3) 86 402 (4) 86 420

Answer:

2. A whole number rounds to 47 600 to the nearest hundred. What is the greatest possible even number? [1]

(1) 47 598 (2) 47 600

(3) 47 648 (4) 47 650

Answer:

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3. A number is a multiple of both 6 and 8. It is greater than 50 and less than 90. What is the number? [1]

(1) 54 (2) 64

(3) 72 (4) 84

Answer:

4. A number leaves remainder 3 when divided by 5. Which could be the number? [1]

(1) 60 (2) 66

(3) 68 (4) 70

Answer:

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5. The sequence increases by the same amount each time: 24 650, ___, 25 350, 25 700. Find the missing number. [1]

(1) 24 850 (2) 24 950

(3) 25 000 (4) 25 050

Answer:

6. There are 72 beads. $\frac{5}{8}$ are blue. The rest are red. How many more blue beads than red beads are there? [1]

(1) 9 (2) 18

(3) 27 (4) 45

Answer:

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Section B | 6 × 2 marks

7. Find the greatest common factor of 36 and 60 that is also a multiple of 4. [2]

Answer:

8. A shop packs 3857 marbles into bags of 8. How many more marbles are needed to fill the last bag? [2]

Answer:

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9. Three identical books and one bag cost $57. The bag costs $9 more than one book. Find the price of the bag. [2]

Answer:

10. A number is multiplied by 6. Then 428 is added to give 3260. Find the number. [2]

Answer:

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11. A hall has 28 rows of 24 seats. After 439 people sit down, the empty seats are reserved in groups of 9. Find the greatest number of complete groups that can be reserved. [2]

Answer:

12. Two bells ring together at 9.00 a.m. One rings every 6 minutes and the other every 8 minutes. At what time do they next ring together? [2]

Answer:

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Section C | 3 × 4 marks

13. A shop has twice as many pencils as pens. It sells 168 pencils and 42 pens. It then has equal numbers of pencils and pens. [4]

(a) How many pens did it have at first? [2]

(b) How many pencils and pens does it have left altogether? [2]

Answer:

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14. A club buys 35 packs of 24 badges. It keeps 168 badges and shares the rest equally among 7 classes. Each class puts its badges in packets of 8. [4]

(a) How many badges does each class receive? [2]

(b) How many packets are made by the 7 classes altogether? [2]

Answer:

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15. Four identical notebooks and three identical files cost $51. Each file costs $3 more than a notebook. [4]

(a) Find the price of a notebook. [2]

(b) A teacher buys 8 notebooks and 5 files. How much change does she receive from $100? [2]

Answer:

WA1 Worked Solutions

1. 86 420

Correct option: (4)

The greatest valid number must start with 86.

The remaining digits in descending order give 86 420, which rounds to 86 000.

2. 47 648

Correct option: (3)

The greatest whole number in the rounding interval is 47 649.

The greatest even number is 47 648.

3. 72

Correct option: (3)

Common multiples are 24, 48, 72, 96, ...

Only 72 is between 50 and 90.

WA1 Worked Solutions

4. 68

Correct option: (3)

68 = 5 × 13 + 3.

The other options leave different remainders.

5. 25 000

Correct option: (3)

Step = 25 700 - 25 350 = 350.

24 650 + 350 = 25 000.

6. 18

Correct option: (2)

Blue = 72 ÷ 8 × 5 = 45.

Red = 72 - 45 = 27. Difference = 45 - 27 = 18.

WA1 Worked Solutions

7. 12

Common factors: 1, 2, 3, 4, 6, 12.
The greatest that is a multiple of 4 is 12.

8. 7 marbles

8 × 482 = 3856, with 1 marble left.
The last bag needs 8 - 1 = 7 more marbles.

9. $21

Remove the extra $9: $57 - $9 = $48.
Four book-sized units cost $48. One book costs $12.
Bag = $12 + $9 = $21.

WA1 Worked Solutions

10. 472

Before adding: 3260 - 428 = 2832.
Number = 2832 ÷ 6 = 472.

11. 25 groups

Total seats = 28 × 24 = 672.
Empty seats = 672 - 439 = 233.
233 ÷ 9 = 25 remainder 8, so 25 complete groups.

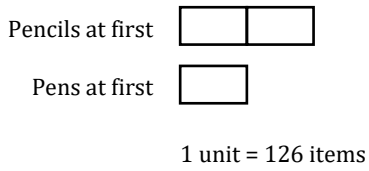
12. 9.24 a.m.

The smallest common multiple of 6 and 8 is 24.
24 minutes after 9.00 a.m. is 9.24 a.m.

WA1 Worked Solutions

13. (a) 126 pens; (b) 168 items

The initial difference was 168 - 42 = 126.
One pen-sized unit = 126, so there were 126 pens. [2]
Pencils left = 2 × 126 - 168 = 84.
Pens left = 126 - 42 = 84. Total = 84 + 84 = 168. [2]



14. (a) 96 badges; (b) 84 packets

Total = 35 × 24 = 840 badges.
Shared badges = 840 - 168 = 672.
Each class receives 672 ÷ 7 = 96 badges. [2]
Each class makes 96 ÷ 8 = 12 packets.
All classes make 12 × 7 = 84 packets. [2]

15. (a) $6; (b) $7

Extra cost of the files = 3 × $3 = $9.
$51 - $9 = $42 is the cost of 7 notebook-sized units.
Notebook = $42 ÷ 7 = $6. [2]
File = $6 + $3 = $9.
Cost = 8 × $6 + 5 × $9 = $93. Change = $7. [2]