

Cambridge Checkpoint Mathematics: Stage 8 – Solutions

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1. (1 point) Solution: $-3 \times (2 + -9) = 21$
2. (1 point) Solution: The highest common factor of 60 and 45 is 15.
3. (1 point) Solution: The lowest common multiple of 8 and 12 is 24.
4. (1 point) Solution: Writing 300 as a product of prime factors gives $2^2 \times 3 \times 5^2$.
5. (2 points) A. Solution: The highest common factor of 300 and 360 is 60.
 B. Solution: The lowest common multiple of 300 and 360 is 1800.
6. (3 points) A. Solution: The equation to represent the problem is $4x = 2(x + 2)$.
 B. Solution: Solving this equation gives $x = 2$.
 C. Solution: Therefore, the side length of the square is 8.
7. (1 point) Solution: The correct answer is $5n - 3$.
8. (1 point) Solution: The correct answer is $2(n - 7)$.
9. (1 point) Solution: The correct answer is 4, k .
10. (2 points) A. Solution: $8 \times 0.1 = 0.8$.
 B. Solution: $33 \times 0.01 = 0.33$.
 C. Solution: $0.35 \div 0.1 = 3.5$.
 D. Solution: $1.6 \div -0.01 = -160$.
11. (1 point) Solution: The correct answer is 0.00524.
12. (1 point) Solution: The correct answer is 600.
13. (2 points) Solution: The numbers in order of size, starting with the smallest, are 5.009, 5.621, 5.63, 5.65.
14. (2 points) Solution: The true statements are A: $-3.4 < -3.2$ and B: $-0.75 > -0.79$.

Bonus

15. (5 points) Solution: The club will have **32** members when the number of boys equals the number of girls.

We have initially 12 boys and 8 girls in the Math Club. Each week, the club admits 1 boy and 2 girls. We need to find how many weeks it would take for the number of boys to equal the number of girls.

$$\text{Initial difference between boys and girls} = 12 - 8 = 4 \text{ (boys are more)}$$

$$\text{Each week, the difference decreases by} = 1$$

So, it would take 4 weeks for the number of boys to equal the number of girls.

By that time, the club would have admitted $4 \times 1 = 4$ more boys and $4 \times 2 = 8$ more girls.

So, the total number of members in the club when the number of boys equals the number of girls would be:

$$\text{Initial boys} + \text{Initial girls} + \text{New boys} + \text{New girls}$$

$$12 + 8 + 4 + 8 = 32$$

So, the Math Club will have 32 members when the number of boys equals the number of girls.

16. (5 points) Solution: The four digits that need to be removed from the from the number 4921508 to get the smallest possible three-digit odd number are **4, 9, 0, 8**.