Children's Day maths puzzle challenge for CBSE Class 9 and 10: Class 11: answers

CBSE Math Revision · CBSE Class 11 (no calculator) · 14 November · Teacher answers and notes

No calculator. Every answer works out exactly.

Teacher notes

- For CBSE Class 11. No calculator: every answer works out exactly, as in board exams.

Starter

1. **20**
   - $5 \times 4 = 20$
2. **0**
   - $1 + (-1) = 0$
3. **210**
   - $20 \times 21 \div 2 = 210$
4. **3/4**
   - $4y = 3x + 8$, so $y = 3x/4 + 2$

Task A: Round 1: algebra

a. **4374**
- $2 \times 3^7 = 2 \times 2187 = 4374$

b. **240**
- Treat the two friends as one block: 5! = 120 orders.
- The friends can swap within the block: 120 × 2 = 240

c. **80**
- ${}^5C_3 \times 2^3 = 10 \times 8 = 80$

Task B: Round 2: coordinates, sets and limits

a. **10**
- $\sqrt{(6^2 + 8^2)} = \sqrt{100} = 10$

b. **5**
- Cricket or football: 25 + 20 − 10 = 35.
- 40 − 35 = 5

c. **Centre (2, −3), radius 5**
- $(x - 2)^2 + (y + 3)^2 = 12 + 4 + 9 = 25$

d. **4**
- $(x^2 - 4)/(x - 2) = x + 2$ for $x \neq 2$, which tends to 4.

Extension

1. **35**
   - ${}^{10}C_2 - 10 = 45 - 10 = 35$

Every question is original and every answer was checked before publishing.