Year 3 Olympiad Mathematics

Non-routine puzzles • logic • patterns • explain your method

Name: _____ Date: _____

Instructions: Work independently where possible. Explain your thinking. You may ask an adult to read instructions aloud.

1. Number detective

I am a two-digit number. My digits add to 11. Reversing my digits makes a number 27 smaller. What number am I?

_____

_____

_____

2. Hidden rule

Complete the sequence: 2, 5, 11, 23, 47, __. What is the rule?

_____

_____

3. Sharing puzzle

Three friends have 24 marbles altogether. Ben has twice as many as Amy. Cara has three times as many as Amy. How many does each have?

_____

_____

_____

4. Logic seats

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Ali, Bea and Chen sit in a row. Ali is not at either end. Bea sits to the left of Chen. Who sits where?

5. Shapes and counting

A rectangle is divided into 2 rows and 3 columns of equal squares. How many rectangles of all sizes can you find?

6. Odd and even

Is the sum of three odd numbers always odd? Explain and give an example.

7. Balance challenge

A box and 3 identical balls weigh the same as 11 balls. How many balls does the box weigh?

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8. Combinations

A cafe offers 3 sandwich fillings and 2 drinks. How many different sandwich-and-drink lunches can you choose?

9. Clock reasoning

At 3:00, the hour and minute hands form a right angle. What angle do they form at 6:00?

10. Make 24

Use 3, 3, 4 and 4 exactly once with +, −, × or ÷ and brackets to make 24. Try more than one idea.

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Purpose: This is a low-pressure snapshot of current skills, not a fixed ability label. Allow approximately 25–40 minutes, or split into shorter sessions.

How to support without giving answers

Read directions aloud if needed. Let your child think, draw or use counters. Record whether an answer was independent, prompted, or supported. Avoid correcting answers until the child has finished.

Suggested answers and observations

1. Suggested answer: 74

Look for: Digit equations: tens exceeds ones by 3; 7+4=11.

2. Suggested answer: 95

Look for: Multiply by 2 and add 1.

3. Suggested answer: Amy 4, Ben 8, Cara 12

Look for: Use 1+2+3=6 equal shares.

4. Suggested answer: Bea, Ali, Chen

Look for: Use middle-position and left-of clues.

5. Suggested answer: 18

Look for: Choose 2 of 4 vertical grid lines and 2 of 3 horizontal grid lines: 6×3.

6. Suggested answer: Yes; e.g., 3+5+7=15

Look for: Odd+odd=even, then +odd=odd.

7. Suggested answer: 8 balls

Look for: Remove three balls from both sides.

8. Suggested answer: 6

Look for: Systematic listing or 3×2.

9. Suggested answer: 180°

Look for: Recognise a straight angle.

10. Suggested answer: (3×4)+(3×4)=24

Look for: Use each digit exactly once; one correct solution is enough.

After the assessment

Discuss one strength, one skill to practise, and one next step. Ask: “How did you decide?” and “Can you show another way?” Encourage effort, explanations and curiosity.

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Parent notes

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