



11+ NVR Student Notes: Shape Puzzles

Website: <https://oatutors.co.uk/>

What You'll Learn Today

- Learn how to add shapes together (Collecting Rule)
- Master the disappearing trick (Cancellation Rule)
- Solve shape puzzles step by step
- Recognize patterns in Non-Verbal Reasoning

1 Shape Math Magic!

The Big Idea

Shapes work like numbers! We can add them together and take them away.

Shape 1 + Shape 2 = Shape 3

Shape 1 - Shape 2 = Shape 3

Think of shapes like your toys - you can put them all in one box (adding) or remove the ones that are the same (taking away)!

2 The Two Super Rules

2.1 Rule 1: The Collecting Rule (+)

Collecting Rule

When we see a + sign, we collect ALL shapes from both boxes and put them in the third box.

It's like putting all your toys in one big toy box!

Example: Box with square + Box with circle = Box with BOTH square AND circle

2.2 Rule 2: The Disappearing Rule (\leftrightarrow or $-$)

Disappearing Rule (Magic Trick!)

When we see \leftrightarrow or $-$, shapes that appear in BOTH boxes disappear!

Only shapes that are in just ONE box will stay.

The Magic: Same shapes in both boxes = POOF! They vanish!



3 Step-by-Step Strategy

How to Solve Any Shape Puzzle

Step 1: Look at the operation sign (+ or \leftrightarrow)

Step 2: If it's +, collect all shapes together

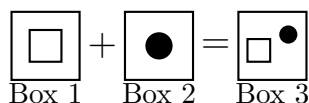
Step 3: If it's \leftrightarrow , find shapes that appear in BOTH boxes

Step 4: Make the matching shapes disappear

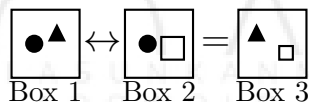
Step 5: Keep only the unique shapes (ones that appear in just ONE box)

4 Visual Examples

4.1 Collecting Example



4.2 Disappearing Example



Why? The circle appeared in BOTH Box 1 and Box 2, so it disappeared! Only the triangle (from Box 1) and square (from Box 2) remained.

5 Quick Practice Tips

- **For Collecting (+):** Count all shapes and put them together
- **For Disappearing (\leftrightarrow):** Put your finger on matching shapes - they vanish!
- **Look carefully:** Same shape, same color, same size = they match
- **Different shapes:** Circle Square Triangle Star
- **Different colors:** Black White Gray



6 Common Mistakes to Avoid

Watch Out!

- Forgetting to check the operation sign
- Not noticing small differences in shapes
- Mixing up collecting and disappearing rules
- Not checking colors carefully (black vs white vs gray)
- Rushing - take time to compare each shape

7 Memory Tricks

- **Collecting Rule:** Think "collection box" - everything goes in!
- **Disappearing Rule:** Think "magic trick" - identical twins vanish!
- **Operation Signs:** $+$ = collect, \leftrightarrow = cancel out
- **Matching:** Same shape + same color + same size = MATCH!

8 Quick Practice

Try to solve these puzzles using our rules:

Puzzle 1: What happens when you collect a star and a circle together?

Puzzle 2: You have two boxes: Box A has a black square and white circle. Box B has a black square and gray triangle. Using the disappearing rule, what's left?

Puzzle 3: Look for this pattern in your next worksheet: Box 1 + Box 2 = ?

Success Tips

- Practice identifying shapes quickly
- Always check the operation sign first
- Use your finger to track matching shapes
- Take your time - accuracy beats speed!
- Ask for help if you get stuck

9 Next Steps

- Master these two rules with lots of practice



- Look for more complex patterns with multiple shapes
- Practice with different colors and sizes
- Challenge yourself with harder puzzles!

