

## Solutions of Bongard Problems

**Note:** the solutions of Bongard Problems, below, are stated as have been supplied by their respective designers (the designer can be seen by clicking on the linked BP). The exceptions are BP's #101–156, for which Hofstadter did not supply solutions, so those have been added by the author of this page. The same applies to the occasional alternative solution for a few BP's.

Bongard Problem #	Left-side Rule	Right-side Rule
BP#1	Empty picture	Not empty picture
BP#2	Large figures	Small figures
BP#3	Outline figures	Solid figures
BP#4	Convex figures	Nonconvex figures
BP#5	Polygons	Curvilinear figures
BP#6	Triangles	Quadrangles
BP#7	Figures elongated vertically	Figures elongated horizontally
BP#8	Figures on the right side	Figures on the left side
BP#9	Smooth contour figures	Twisting contour figures
BP#10	Triangles	Quadrangles
BP#11	Elongated figures	Compact figures
BP#12	Convex hull of figure elongated	Convex hull of figure compact
BP#13	Vertical rectangles or horizontal ellipses	Vertical ellipses or horizontal rectangles
BP#14	Large total line length	Small total line length
BP#15	Closed lines	Open lines
BP#16	Spiral curls counterclockwise	Spiral curls clockwise
BP#17	An acute angle directed inward	No angle directed inward
BP#18	A neck	No neck
BP#19	Neck horizontal	Neck vertical
BP#20	Points located on one side of the neck	Points located on both sides of the neck
BP#21	Small figure present	No small figure present
BP#22	Areas of figures approximately equal	Areas of figures differ greatly
BP#23	One figure	Two figures
BP#24	A circle	No circle
BP#25	Black figure is a triangle	Black figure is a circle
BP#26	Solid black triangle	No solid black triangle
BP#27	More solid black figures	More outline figures
BP#28	More solid black circles	More outline circles
BP#29	There are more small circles inside the figure outline than outside	There are fewer small circles inside the figure outline than outside
BP#30	A line with a self-crossing	A line without a self-crossing
BP#31	One line	Two lines
BP#32	A sharp projection	No sharp projection
BP#33	Acute angle	No acute angle
BP#34	A large hole	A small hole
BP#35	The axis of the hole is parallel to the figure axis	The axis of the hole is perpendicular to the figure axis
BP#36	Triangle above circle	Circle above triangle
BP#37	Triangle above circle	Circle above triangle
BP#38	Triangle larger than circle	Triangle smaller than circle
BP#39	Segments almost parallel to each other	Large angles between segments
BP#40	Three points on a straight line	No three points on a straight line
BP#41	Outline circles on one straight line	Outline circles not on one straight line
BP#42	Points inside the figure outline are on a straight line	Points inside the figure outline are not on a straight line
BP#43	The vibration amplitude increases from left to right	The vibration amplitude decreases from left to right
BP#44	Small circles on different arcs	Small circles on one arc
BP#45	Outline figure on top of solid black figure	Black figure on top of outline figure
BP#46	Triangle on top of the circle	Circle on top of the triangle
BP#47	Triangle inside of the circle	Circle inside of the triangle

BP#48	Solid dark figures above the outline figures	Outline figures above the solid dark figures
BP#49	Points inside the figure outline are grouped more densely than outside the contour	Points outside the figure contour are grouped more densely than inside the contour
BP#50	Axes of symmetry	No axes of symmetry
BP#51	Two circles close to each other	No two circles close to each other
BP#52	Arrows pointing in different directions	Arrows pointing in the same direction
BP#53	Inside figure has fewer angles than outside figure	Inside figure has more angles than outside figure
BP#54	A cross, circle, and triangle arranged counterclockwise	A cross, circle, and triangle arranged clockwise
BP#55	A circle is at the left of the cavity if you look from inside the figure	A circle is at the right of the cavity if you look from inside the figure
BP#56	All figures of the same color	Figures of different colors
BP#57	Identical figures	Figures not identical
BP#58	Solid dark quadrangles are identical	Solid dark quadrangles are different
BP#59	Figures are similar	Figures are not similar
BP#60	Some similar figures	No similar figures
BP#61	A line separates the crosses in half	A line does not separate the crosses in half
BP#62	Ends of the curve are far apart	Ends of the curve are close together
BP#63	Shading thicker on the right side	Shading thicker on the left side
BP#64	A cross is located on the extension of the ellipse axis	A circle is located on the extension of the ellipse axis
BP#65	A set of triangles elongated horizontally	A set of triangles elongated vertically
BP#66	Unconnected circles on a horizontal line	Unconnected circles on a vertical line
BP#67	The right branch begins at a higher point than the left branch	The right branch begins at a lower point than the left branch
BP#68	The end of the right branch is higher than that of the left branch	The end of the right branch is lower than that of the left branch
BP#69	Large black dot on the main branch	Large black dot on a side branch
BP#70	There are no side branches of the second order	There are side branches of the second order
BP#71	There are inside figures of the second order	There are no inside figures of the second order
BP#72	Ends of the curve are parallel	Ends of the curve are perpendicular
BP#73	The long axes of the ellipse and rectangle are perpendicular	The long axes of the ellipse and rectangle are parallel
BP#74	A tail grows from the obtuse end	A tail grows from the acute end
BP#75	Triangle located at the concave side of an arc	Triangle located at the convex side of an arc
BP#76	Long sides concave	Long sides convex
BP#77	Angle divided in half	Angle not divided in half
BP#78	Extensions of segments cross at one point	Extensions of segments do not cross at one point
BP#79	A dark circle is closer to the outline circle than to the triangle	A dark circle is closer to the triangle than to the outline circle
BP#80	Points located at the same distances from a cross	Points located at different distances from a cross
BP#81	Dark figures can be divided from outline figures by a straight line alternatively: Convex hulls of filled and outlined figures overlap	Dark figures are impossible to separate alternatively: Convex hulls of filled and outlined figures do not overlap
BP#82	The convex hull of the crosses forms an equilateral triangle	The convex hull of the crosses does not form an equilateral triangle
BP#83	A circle is inside of a figure made by crosses	A circle is outside of a figure made by crosses
BP#84	A quadrangle is outside of a figure made by circles	A quadrangle is inside of a figure made by circles
BP#85	Three parts	Five parts
BP#86	Three parts	Five parts
BP#87	Four parts	Five parts
BP#88	Three parts	Five parts
BP#89	Three parts	Five parts
BP#90	Three parts	Four parts
BP#91	Three identical elements	Four identical elements
BP#92	The chain does not branch	The chain branches
BP#93	Branches at outlined circle	Branches at solid dark circle
BP#94	Solid dark circle not at end	Solid dark circle at end
BP#95	Vertical hatched lines	Horizontal hatched lines
BP#96	Triangles	Quadrangles
BP#97	Triangles	Circles
BP#98	Triangles	Quadrangles
BP#99	Outlines made by triangles and circles intersect	Outlines made by triangles and circles do not intersect

BP#100	The letter A	The letter B
BP#101	Parallel dents	Perpendicular dents
BP#102	Internal arrows point outward	Internal arrows point inward
BP#103	Isosceles triangle	Scalene triangle
BP#104	One circle passes through the center of the other circle	No circle passes through the center of the other circle
BP#105	Ends of line point to the same direction	Ends of line point to opposite directions
BP#106	Negative slope	Positive slope
BP#107	Three simple lines	Three complex lines
BP#108	Petals taper off	Petals thicken
BP#109	Circle on the right of the box	Circle on the left of the box
BP#110	Four out of five objects are circles	Never four out of five objects are circles
BP#111	Middle shape is a triangle	Middle shape is not a triangle
BP#112	X-coordinates of dots are equidistant	Y-coordinates of dots are equidistant
BP#113	T-like junction	Y-like junction
BP#114	Four X-like points	Two X-like points
BP#115	Innermost shape is reachable from the outermost one	Innermost shape is unreachable from the outermost one
BP#116	Polygon stands on side	Polygon stands on vertex
BP#117	Triangle points to center of circle	Triangle does not point to center of circle
BP#118	No cycle	A cycle exists
BP#119	A small correction will result into a single circle	No small correction will result into a single circle
BP#120	All turns are in one direction alternatively: Rectangular loop exists	Turns are not all in one direction alternatively: No rectangular loop
BP#121	Circle: VV; square: VΛ; triangle: ΛΛ; blank: ΛV	Circle: ΛΛ; square: ΛV; triangle: VV; blank: VΛ
BP#122	Line divides interior into two regions	Not so
BP#123	Similar shapes	Dissimilar shapes
BP#124	Similar textures	Dissimilar textures
BP#125	One protrusion and one indentation of the same shape	Not so
BP#126	One large and one small object	Not so
BP#127	Exactly one circle	Not exactly one circle
BP#128	Same objects inside and outside the large shape	Not same objects inside and outside the large shape
BP#129	Indentation on protrusion	Indentation on indentation
BP#130	Closed region is made of curves if "flaws" are ignored	Closed region is a polygon if "flaws" are ignored
BP#131	Dots are vertices of a parallelogram	Dots are not vertices of a parallelogram
BP#132	Dots are vertices of a triangle standing on a side	Dots are vertices of a triangle standing on a vertex
BP#133	Dots collinear with center of circle	Dots not collinear with center of circle
BP#134	Circle centers are collinear	Circle centers are not collinear
BP#135	Circles on same side of curve	Circles on different sides of curves
BP#136	Concave shape	Convex shape
BP#137	Dots equal in number to the sides of the closed region	Dots unequal in number to the sides of the closed region
BP#138	No dot well within the convex hull	At least one dot well within the convex hull
BP#139	Similar components that change regularly	Not so
BP#140	One large shape and two smaller identical ones	Not so
BP#141	Two clusters of three and two objects each	One cluster of three objects and two different objects
BP#142	Two clusters of three and two that are adjacent	Two clusters of three and two that are not adjacent
BP#143	Two clusters of three and two	Two clusters of four and one
BP#144	Two clusters of three and two but sharing a property alternatively: Different features yield different 3-2 splits	Two clusters of three and two, separable alternatively: Different features yield the same 3-2 split
BP#145	Two clusters of four and one, the four are of same kind alternatively: Different features yield same 4-1 split	Two clusters of four and one, the four are three and one alternatively: Different features yield different 4-1 splits
BP#146	A shape contains a square if and only if it is a circle	A shape contains a square if and only if it is a triangle
BP#147	Two clusters of three and two, the two are vertical	Two clusters of three and two, the two are horizontal
BP#148	A little less than a regular shape	A little more than a regular shape
BP#149	Lone square	Lone circle
BP#150	Odd number of squares	Even number of squares
BP#151	If the circle closest to the cross is removed, the rest form an equilateral triangle	Not so

BP#152	No vertical axis of symmetry	Vertical axis of symmetry
BP#153	Predominance of curves and hook-like endings	Predominance of straight lines and staple-like endings
BP#154	Wedged endings	Rounded endings
BP#155	Curves are longer than straight lines	Curves are shorter than straight lines
BP#156	Three spatially separated clusters	Two spatially separated clusters
BP#157	White background	Black background
BP#158	Some slope	Another slope
BP#159	Two clusters of 2+3, middle shape must be seen as rectangle	Two clusters of 2+3, middle shape must be seen as piece of straight line
BP#160	Quadrilateral that is nearly a triangle	Typical quadrilateral
BP#161	Midpoints are collinear	Midpoints are not collinear
BP#162	Every other side, if extended, passes through one point	Not so
BP#163	Line connecting small shapes does not intersect large one	Line connecting small shapes intersects large one
BP#164	Number of objects is one less than sides	Number of objects is one more than sides
BP#165	Line perpendicular to one side of the object	Line parallel to one side of the object
BP#166	Two clusters of dots	Three clusters of dots
BP#167	Every cluster has two clusters of dots	Every cluster has three clusters of dots
BP#168	Bulky interior, if closed	Narrow interior, if closed
BP#169	Two clusters of different numbers of elements	Two clusters of equal number of elements
BP#170	Π-like shape	X-like shape
BP#171	Angle bisectors meet at the incenter	Perpendicular bisectors meet at the orthocenter
BP#172	Radially symmetric	Not radially symmetric
BP#173	Small variance of slopes	Large variance of slopes
BP#174	Convex central interior	Concave central interior
BP#175	Small object can glide in the bay	Small object cannot glide in the bay
BP#176	Line that connects dots avoiding obstacles is short	Line that connects dots avoiding obstacles is long
BP#177	All interiors are convex	At least one concave interior
BP#178	Center of circle in triangle perpendicular to the other two	Not so
BP#179	Object thinner at top	Object thicker at top
BP#180	Black region narrows at the boundary or black/white	Black region widens at the boundary or black/white
BP#181	One concavity	Two concavities
BP#182	Concave if proximal points are connected	Convex if proximal points are connected
BP#183	Same curvature close to the middle alternative expression of the same idea: Tangent near the middle leaves curve on the same side	Change of curvature close to the middle alternative expression of the same idea: Tangent near the middle leaves curve on opposite sides
BP#184	Curve is smooth close to the middle	Curve zigzags close to the middle
BP#185	Curve with two complex parts	Curve with three complex parts
BP#186	Object made of objects	Object made of objects made of objects
BP#187	Sides of parts are one more than sides of whole	Sides of parts are one less than sides of whole
BP#188	Shape of whole different from shape of parts	Shape of whole same as shape of parts
BP#189	All clusters are made of objects of the same texture	Not all clusters are made of objects of the same texture
BP#190	All connected objects have the same texture	Some connected objects have different textures
BP#191	Orifice on the left	Orifice on the right
BP#192	Elongated vertically	Elongated horizontally
BP#193	"Ghost" triangle	"Ghost" rectangle
BP#194	Background is a parallelogram	Background is a triangle
BP#195	Bottom object in front of top objects in 3-D	Bottom object behind top objects in 3-D
BP#196	Light-colored texture	Dark-colored texture
BP#197	Some style (font)	Another style (font)
BP#198	Stays in alternative lower-level expression of the same idea: One end of the chain is inside the large shape	Escapes alternative lower-level expression of the same idea: Both ends of the chain are outside the large shape
BP#199	Stays put alternative lower-level expression of the same idea: Vertical from barycenter intersects the base of the object	Tumbles alternative lower-level expression of the same idea: Vertical from barycenter avoids the base of the object
BP#200	Bongard Problem with solution based on features	Bongard Problem with solution based on numerosity
BP#201	Two of the shapes make tiles along their border lines	Not so
BP#202	Even number	Odd number
BP#203	Prime number	Composite number

BP#204	Five	Four
BP#205	Two clusters of two elements each	Not so
BP#206	Curve ends in a roughly up or down direction	Curve ends in a roughly left or right direction
BP#207	Curve ends on the left part of the box	Curve ends on the right part of the box
BP#208	All curves spiral counterclockwise, starting from maximum curvature	All curves spiral clockwise, starting from maximum curvature
BP#209	No objects are centered at the center of the box	One object is centered at the center of the box
BP#210	Part of at least one object is out of box	All objects are within the box
BP#211	More black than white	More white than black
BP#212	No dot is too far apart from another dot	At least one dot is far apart from all other dots
BP#213	Curve intersects itself at the point of greatest curvature	Not so
BP#214	"Smiley face"	Not a "smiley face"
BP#215	"Mouth" concave upwards	"Mouth" convex upwards
BP#216	"Ink tip" (non-homogeneous line)	"Marker tip" (homogeneous line)
BP#217	Perfectly drawn lines	Imperfectly drawn lines
BP#218	Something is missing in the sequence	Nothing is missing in the sequence
BP#219	Parallel curves	Non-parallel curves
BP#220	One cluster	Two clusters
BP#221	No small square at the end of any curve alternatively: Curves with a 3-D feeling	Curve ends at a small square alternatively: Flat (2-D) curves
BP#222	Border of black rectangle is incomplete	Border of black rectangle is complete
BP#223	Large black region if completed is a circle	Large black region if completed is an ellipse
BP#224	Diametrically opposite objects affect similarly the large black circular region	Not so
BP#225	Low contrast alternative lower-level expression of the same idea: No fully black region	High contrast alternative lower-level expression of the same idea: At least one fully black region
BP#226	What comes out of black circle has a clockwise direction	Not so
BP#227	Dots touch each other if and only if no large region touches the edges of the box	Dots don't touch each other if and only if no large region touches the edges of the box
BP#228	After rotating so that the longest line is horizontal, there is a "left arm" raised and a "weight" down	After rotating so that the longest line is horizontal, there is a "left arm" down and a "weight" raised
BP#229	When the objects are rotated and their dots are overlapped and eliminated, they form three-square-tall structures with columns of the same color	Not so
	<p style="text-align: center;"><b>Explanation / justification of BP#229 by its creator:</b></p> <p>Long (doubly sized) objects are purines (A &amp; G). Short objects are pyrimidines (C &amp; T). Black are those forming triple Hbond (G and C). White are those forming double Hbond (A &amp; T).</p> <p>On the left we have "matching codes", i.e., bases, doublets or triplets that, when rotated, can pair correctly (A with T, G with C), binding the two "strands".</p> <p>On the right we have objects that no matter how they are rotated they do not pair correctly (because of bumps, wrong color codes, etc).</p>	
BP#230	The sum of vertices, line ends, and dots is 7	Not so
BP#231	Five concavities	Not five concavities
BP#232	Box divided into six areas	Box divided into four areas
BP#233	Lines plus triangles equal stars	Lines minus triangles equal stars
BP#234	Circle falls by gravity on the right half of box if let loose	Circle falls by gravity on the left half of box if let loose
BP#235	The "rope", if extended, reaches the other ball	The "rope", if extended, does not reach the other ball
BP#236	Texture with stripy squiggle	Texture with blotchy squiggle
BP#237	Upper central line <i>appears</i> shorter than lower central line	Upper central line <i>appears</i> longer than lower central line
BP#238	C-like curves point to the same direction	C-like curves point to opposite directions
BP#239	Straight line parallel to line joining the ends of curve alternatively: Sliding the straight line suitably can make a closed area	Straight line perpendicular to line joining the ends of curve alternatively: Not so
BP#240	Straight line joining the curve ends does not cut the curve	Straight line joining the curve ends intersects the curve
BP#241	Circumference shorter than length of everything else	Circumference longer than length of everything else



BP#242	Convex hull is a square	Convex hull is not a square
BP#243	Triangle closer to box corner than any of the circles	Not so
BP#244	Scanning left-to-right, top-to-bottom, each filled box is separated from the next filled box by the same number of empty boxes	Not so
BP#245	Can be completed to be made into a rectangle	Cannot be completed to be made into a rectangle
BP#246	Equal numbers of straight lines and continuous curves	Unequal numbers of straight lines and continuous curves
BP#247	Five straight or curved lines	Not five straight or curved lines
BP#248	Dashed lines inside solid shape make an identical but slightly smaller shape, "parallel" to the one outside	Not so
BP#249	Dashed lines form the same shape centered inside	Not so
BP#250	Tetrahedron projected on the box plane alternative lower-level expression of the same idea: Four points interconnected with straight lines where one of the points might lie on an edge	Not so
BP#251	Tetrahedron projected on the box plane	Not so
BP#252	Impossible solid in 3-D	Possible solid in 3-D
BP#253	Prime number solution without using the arithmetic concept of primality: It is impossible to create subgroups all of which have the same number of two-or-more identically shaped objects	Composite number solution without using the arithmetic concept of primality: It is possible to create subgroups all of which have the same number of two-or-more identically shaped objects
BP#254	Circle and two vertices are collinear	No two vertices and the circle are collinear
BP#255	Three pairs of parallel and non-collinear pieces of straight lines, each pair with a different slope	Not so
BP#256	Each large circle closer to a small circle than a large one, and each small circle closer to a large one than a small one	Not so
BP#257	The distance from the center of the line to the bottom of the square is the same as the distance from the dot to the right edge of the square	Not so
BP#258	Objects identical after mirroring horizontally	Objects identical after mirroring vertically
BP#259	Two identical overlapping objects of which the top is rotated slightly clockwise	Not so
BP#260	Squares are either all empty or all contain something	Not so
BP#261	Straight lines that join filled and outlined circles intersect	Straight lines that join filled and outlined circles do not intersect
BP#262	Exactly one point where lines bend at an angle	Not exactly one point where lines bend at an angle
BP#263	At least one ending edge is straight	All ending edges are curved
BP#264	Closed area	No closed area
BP#265	Axis of symmetry	No axis of symmetry
BP#266	At least one touch or cross point	No touch or cross point
BP#267	Odd number of straight line segments	Even number of straight line segments
BP#268	Convex hull elongated vertically	Convex hull elongated horizontally
BP#269	Center of symmetry	No center of symmetry
BP#270	Only vertical or horizontal lines	Neither vertical nor horizontal lines
BP#271	Can be hand-written without raising the pen	Cannot be hand-written without raising the pen
BP#272	Convex hull is a triangle	Convex hull is a quadrilateral
BP#273	Stays put	Tumbles
BP#274	Notch from above (holds poured water)	No notch from above (does not hold poured water)
BP#275	Straight line joining the ends does not intersect the object	Straight line joining the ends intersects the object
BP#276	At least one endpoint	No endpoints
BP#277	One object	Two or more objects
BP#278	Shorter on the left, taller on the right	Taller on the left, shorter on the right
BP#279	The left part has more pixels than the right part	The left part has fewer pixels than the right part
BP#280	The left part is wider than the right part	The left part is narrower than the right part
BP#281	Equal number of horizontal and vertical lines	Unequal number of horizontal and vertical lines
BP#282	Shape of black region same as overall shape of object	Shape of black region different from overall shape of object
BP#283	Rectangle left after tiling all black shapes into empty square	Triangle left after tiling all black shapes into empty square
BP#284	Half of the square is filled	Either more or less than half of the square is filled
BP#285	The centers ("barycenters") of the objects are collinear	The centers ("barycenters") of the objects are not collinear
BP#286	Decreasing in size from top to bottom	Increasing in size from top to bottom
BP#287	"Rays" emanating from a central point alternative lower-level expression of the same idea:	Not so

	Altitudes of isosceles triangles meet at a point if extended from top to base	
BP#288	The sum of the ratios of the filled areas is 1	The sum of the ratios of the filled areas is other than 1
BP#289	Shapes, if tiled up properly, form a square	Shapes cannot form a square no matter how they are tiled
BP#290	If any non-nosed faces exist, they are happy if and only if happy nosed faces exist as well	Not so
BP#291	The shapes in the large square never appear outside of it	At least one shape in the large square appears outside of it
BP#292	Angle made by shapes with vertex at square is not acute	Angle made by shapes with vertex at square is acute
BP#293	Square divided into four areas of the same size and shape	Not so
BP#294	The two points are reachable through a path	The two points are unreachable by any path
BP#295	Line joins large and small square	Line joins the two middle-sized squares
BP#296	All three sizes are present	Only two of the three sizes present
BP#297	"Ghost shape" is square	"Ghost shape" is rectangular
BP#298	One of the two small squares is near the lower-right corner	One of the two small squares is near the upper-right corner
BP#299	Lines if slightly extended make up a regular polygon	Lines if slightly extended cannot make up a regular polygon
BP#300	Acceleration and deceleration	Constant speed
BP#301	Large and medium-sized square, the latter can be hidden	Large and small-sized square, the latter can be hidden
BP#302	Collinear objects, of which the 3rd is moved elsewhere	Collinear objects, of which the 2nd/4th is moved elsewhere
BP#303	Three objects are identical, the fourth differs	Not so
BP#304	At least one (interior or exterior) right angle	No right angle (either interior or exterior)
BP#305	Shapes identical after rotation	Shapes identical after rotation and mirroring
BP#306	Ratio of inside to outside identical shapes is constant	Not so
BP#307	Barycenter of each cluster of dots near a vertex alternative: Three or more small clusters of dots	Not so
BP#308	Three or more small clusters of dots	Not so
BP#309	Ball touches curve at a point of local minimum downwards	Ball touches curve at a point of local maximum upwards
BP#310	Enclosed square "repelled" by the outside squares, closest to the side of the enclosing square that's farthest from the common center of the outside squares.	Enclosed square "attracted" by the outside squares, closest to the side of the enclosing square that's closest to the common center of the outside squares.
BP#311	Number of sides – number of pluses = 3	Number of sides – number of pluses = 4
BP#312	Lines intersect within the box	Lines intersect out of the box
BP#313	Closed curves clockwise, open curves counterclockwise	Closed curves counterclockwise, open curves clockwise
BP#314	Long distance between the marked locations	Short distance between the marked locations
BP#315	One area unreachable by the marked locations	All areas reachable by the marked locations
BP#316	At least one path is a cycle	No path is a cycle
BP#317	Number of enclosed dots proportional to the circle size	Not so
BP#318	The numbers of dots are in sequence	Not so
BP#319	The number of dots in one cluster is a multiple of the other	Not so
BP#320	The numbers of dots in the two clusters are approximately equal	The numbers of dots in the two clusters differ a lot
BP#321	Small round object unreachable from the border of the box	Small round object reachable from the border of the box
BP#322	One outer outline	More than one outer outline
BP#323	Jigsaw puzzle pieces can be assembled into a square	Jigsaw puzzle pieces cannot be assembled into a square
BP#324	Left shapes can be placed on top of each other to make right shape	Not so
BP#325	Left shapes can combine by symmetric difference ("xor" logical operator) to make right shape	Left shapes can combine by intersection ("and" logical operator) to make right shape
BP#326	Straight line tangent to circle	Straight line not tangent to circle
BP#327	Straight line tangent to curve	Straight line not tangent to curve
BP#328	All sides are equal	All angles are equal
BP#329	Regular polygon	Not regular polygon
BP#330	1-D (line drawing, locally straight line)	2-D
BP#331	2-D (surface, locally flat)	3-D
BP#332	Transparent solid	Opaque solid
BP#333	Platonic solid (regular polyhedron)	Not a platonic solid
BP#334	Odd number of dots	Even number of dots
BP#335	Tessellates the plane	Does not tessellate the plane
BP#336	One gear turns all	No gear turns all
BP#337	Black is below upward slopes	Black is below downward slopes

BP#338	High approximate similarity	Low approximate similarity
BP#339	Union of left sets is right set	Intersection of left sets is right set
BP#340	Regular star polygons that can be traced vertex-to-vertex in a continuous fashion	Not so
BP#341	Strictly increasing or strictly decreasing border line	Both increasing and decreasing border line
BP#342	Exactly one axis of symmetry	Either zero or more than one axis of symmetry
BP#343	No two shapes are the same	At least two shapes are the same
BP#344	Shape can tile with itself so as to create a parallelogram	Shape cannot tile with itself so as to create a parallelogram
BP#345	Intersection of circle and square	Union of circle and square
BP#346	Object on the right fits in category on the left	Object on the right does not fit in category on the left
BP#347	No pattern (variety of shapes)	All shapes have something in common
BP#348	Shape on the right is the convex hull of shape on the left	Not so
BP#349	One object does not belong to the category of the rest	All objects form one category
BP#350	Some quantity keeps increasing from left to right	Not so
BP#351	Discrete quantity	Continuous quantity
BP#352	Quantity has no lower bound	Quantity has lower bound
BP#353	Increasing quantity may loop back to starting value	Increasing quantity cannot loop back to starting value
BP#354	Angular quantity	Infinitely increasing quantity
BP#355	Fractal iteration based on 2-D (shapes)	Fractal iteration based on 1-D (lines)
BP#356	Object at lower-right fits as $n$ -th item in the top row of objects, where $n$ is the number of dots at lower-left	Not so
BP#357	Decelerating change in quantity, left-to-right	Accelerating change in quantity, left-to-right
BP#358	The circles will collide if the arrows are their velocities	The circles will not collide if the arrows are their velocities
BP#359	Random arrangement of dots	Non-random (patterned) arrangement of dots
BP#360	Order is high (low entropy)	Order is low (high entropy)
BP#361	Analogy makes sense	Analogy does not make sense
BP#362	Choice that solves the analogy exists	Choice that solves the analogy does not exist
BP#363	Counterclockwise along the curve following the arrow	Clockwise along the curve following the arrow
BP#364	Two clearly separable groups	No clearly separable groups
BP#365	Two independent quantities changing simultaneously	A single quantity is changing
BP#366	White dot is at center of mass	White dot is not at center of mass
BP#367	Center of mass within the black area of the shape	Center of mass out of the black area of the shape
BP#368	There is a point that can "see" (in straight lines) all points	There is no point that can "see" (in straight lines) all points
BP#369	Pairs of points (small white circles) on one curve can be glued together to make the other curve	Not so
BP#370	Gluing sides with the same symbols makes a sphere	Gluing sides with the same symbols makes a torus
BP#371	Net (folding along edges can make a 3D solid)	No net
BP#372	Object belongs to the left-hand side category	Object belongs to the right-hand side category
BP#373	Intersection (logical conjunction)	Union (logical disjunction)
BP#374	Simple object	Complex object
BP#375	Representationally uniform	Representationally non-uniform
BP#376	A "chess" piece moving as shown may reach every square	Not so
BP#377	The two objects have similar representations	The two objects have dissimilar representations
BP#378	The two objects are conceptually related	The two objects are conceptually unrelated
BP#379	Complete set	Incomplete set
BP#380	The set indicated by the objects is finite	The set indicated by the objects is infinite
BP#381	Adding the top two waves yields the bottom wave	Not so
BP#382	No knot ("unknot")	Knot
BP#383	When the shape is removed from the dots, the dots give enough information to place the shape back where it was	Not so
BP#384	Square number of dots	Not a square number of dots
BP#385	Nets of cubes	No nets of cubes
BP#386	Lower shape can be used as a tile to build the upper one	Not so
BP#387	Dots can be shared equally between figures	Dots cannot be shared equally between figures
BP#388	White dot can "see" (in straight lines) all black points	White dot cannot "see" (in straight lines) all black points
BP#389	Loops are "entangled" (in 3-D)	Loops can be separated (in 3-D)
BP#390	Each graph vertex is uniquely defined by its connections (the graph does not admit nontrivial automorphisms)	The graph admits nontrivial automorphisms
BP#391	There exists an edge such that removing it yields two	The minimum number of edges whose removal results in two



	disconnected graphs (i.e., the minimum number of edges whose removal results in two disconnected graphs is 1)	disconnected graphs is 2
BP#392	Exponential increase	Linear increase
BP#393	Correct	Incorrect
BP#394	For each colored square only, there exists a path starting on it that covers each square of the figure exactly once	There is no path that starts on a colored square and covers each square of the figure exactly once