

ELG 4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles

Vertical Progression:

| | |
|-----------------------------|--|
| 2nd Grade | <p>2.G.A Reason with shapes and their attributes.</p> <ul style="list-style-type: none"> ○ 2.G.A.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. |
| 3rd Grade | <p>3.G.A Reason with shapes and their attributes.</p> <ul style="list-style-type: none"> ○ 3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. |
| 4th Grade | <p>4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</p> <ul style="list-style-type: none"> ○ 4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. ○ 4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles. ○ 4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. |
| 5th Grade | <p>5.G.B Classify two-dimensional figures into categories based on their properties.</p> <ul style="list-style-type: none"> ○ 5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. ○ 5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties. |

Students will demonstrate command of the ELG by:

- Drawing points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines.
- Identifying and labeling points, line segments, rays, angles, and perpendicular and parallel lines in two-dimensional figures.
- Classifying and identifying two-dimensional figures according to attributes of line relationships (parallel, perpendicular) or angle size.
- Recognizing right triangles as a category and identifying right triangles.
- Recognizing a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts.
- Identifying line-symmetric figures and drawing lines of symmetry.
- Measuring angles.

ELG 4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles

Vocabulary:

- acute (angle, triangle)
- angle
- attribute
- endpoint
- exterior
- interior
- intersect
- line
- line segment
- obtuse (angle, triangle)
- parallel
- perpendicular
- point
- quadrilateral
- ray
- right (angle, triangle)
- vertex

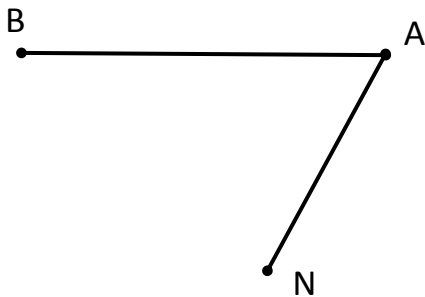
Sample Instructional/Assessment Tasks:

1) Standard: 4.G.A.1

Source: <https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.G.1>

Item Prompt:

Look at angle BAN .



- Is BAN a right, acute, or obtuse angle?
- Add segment BK that is perpendicular to segment BA .
- Explain how you know that segment BK is perpendicular to segment BA .

Correct Answer:

- Acute angle
- Students should draw a line segment from point B that is perpendicular to segment BA .
- I know that segment BK is perpendicular to segment BA because the segments intersect at point B and make a 90-degree angle.

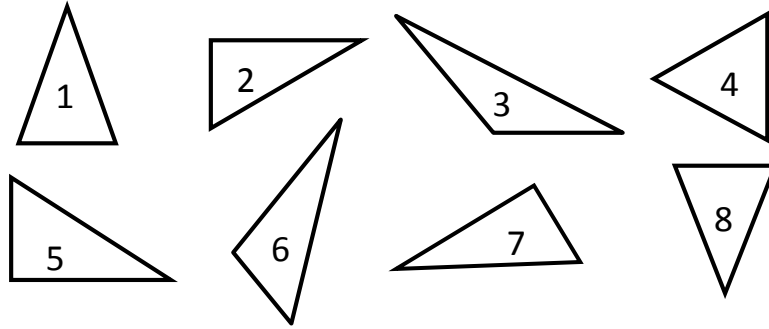
ELG 4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles

2) Standard: 4.G.A.2

Source: <https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.G.2>

Item Prompt:

Look at the numbered triangles below. How can you classify these triangles into two or more groups? Describe your groups on the lines below. Be sure to tell in which group each numbered triangle belongs.



Correct Answer:

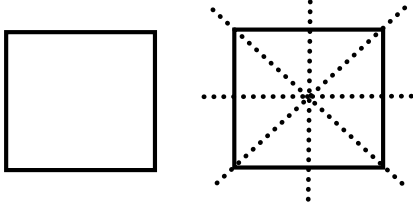
Students may group the triangles into any of the following categories: triangles with right angles and with no right angles; with obtuse angles and with no obtuse angles; with perpendicular sides and without any perpendicular sides; with equal sides and without equal sides.

3) Standard: 4.G.A.3

Source: <https://grade4commoncoremath.wikispaces.hcpss.org/Assessing+4.G.3>

Item Prompt:

Rosa and Steven were investigating quadrilaterals and symmetry in math class. Rosa drew the quadrilateral below and found four lines of symmetry as shown. She looked at Steven and said, “That makes sense. A shape with four sides and four angles should have four lines of symmetry.”



Steven corrected Rosa, saying, “Not all four-sided shapes have four lines of symmetry.” Then, he drew a four-sided figure to support his statement.

In the space below, draw a figure to show what Steven might have drawn. Explain how the figure you drew supports Steven’s statement.

Correct Answer:

Students can draw a rectangle, parallelogram, chevron, or trapezoid. They should explain that although a polygon has 4 sides and 4 vertices, they may only have one or two symmetry (e.g., rectangle – 2, parallelogram – 2, chevron – 1)