



5.G.1: Identify, describe, and draw triangles (right, acute, obtuse) and circles using appropriate tools (e.g., ruler or straightedge, compass, and technology). Define and model the relationship between radius and diameter.

Reporting Category: Geometry, Measurement, and Data Analysis.

Subdomain: N/A

5.G.1 Instructional Framework

Assessed On:

☐ Checkpoint 1

☐ Checkpoint 2

☐ Checkpoint 3

☒ Summative

Content Limits:

- Do not include side classifications.

Clarifications: N/A

Calculator Availability: Not Allowed

Expected Academic Vocabulary: Right triangle, Acute triangle, Obtuse triangle, Circle, Radius, Diameter, Angle, Degrees

Examples of Context and Varying Difficulty Levels

Context: Easy

Discrete models for each shape are provided.

Context: Medium

A model with overlapping shapes is given or no model is given.

Context: Difficult

A model must be constructed based on given parameters.

Proficiency Level Descriptors and Example Items

Looking Back:

[4.G.1 ILEARN Item Specification](#)

[4.G.2 ILEARN Item Specification](#)

[4.G.3 ILEARN Item Specification](#)

Looking Ahead:

[6.GM.2 ILEARN Item Specification](#)

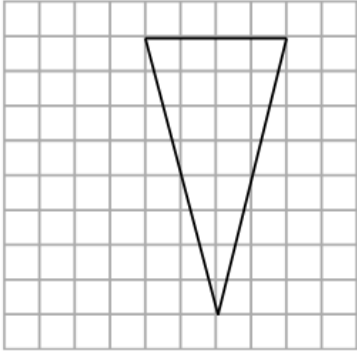
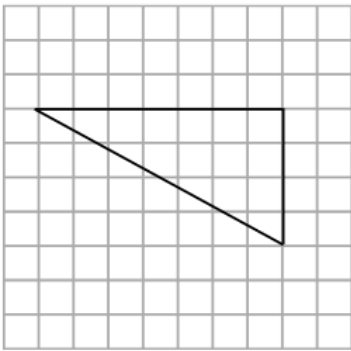
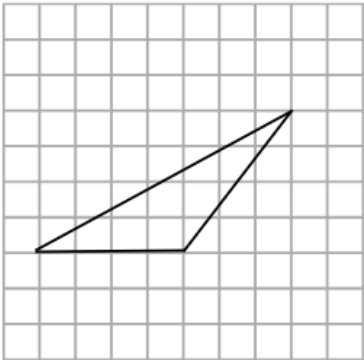
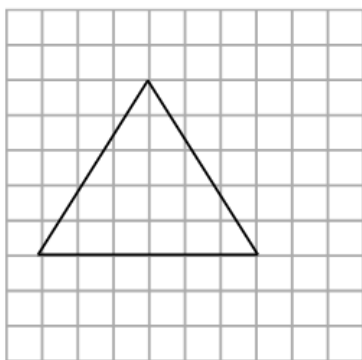
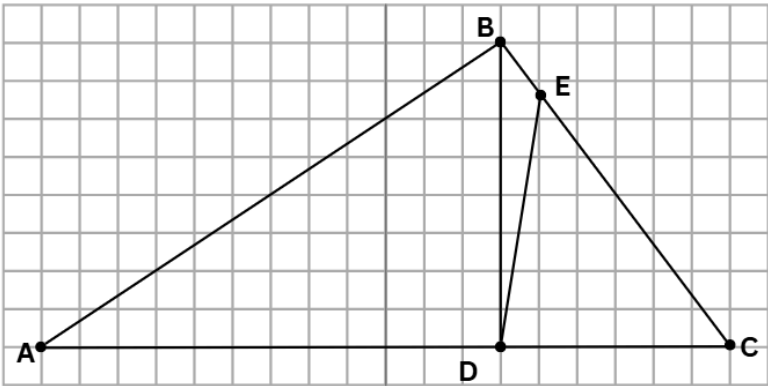
Below Proficiency: Classify a triangle as right, acute, or obtuse.

Which triangle is an obtuse triangle?

This item is DOK 1 because students must use the definitions of the triangle types to inform their response.

This is easy because a discrete model is given



<div data-bbox="198 604 232 636" data-label="Text">a.</div>  <div data-bbox="682 604 714 636" data-label="Text">c.</div>  <div data-bbox="198 1010 232 1041" data-label="Text">b.</div>  <div data-bbox="682 1010 714 1041" data-label="Text">d.</div> 	<p>for each shape.</p>
<p>Answer: b</p> <p>Using the diagram given, classify each triangle as acute, obtuse, or right.</p> 	<p>This item is DOK 1 because students must use the definitions of the triangle types to inform their response.</p> <p>This is medium because a model with overlapping triangles is given.</p>



	Acute Triangle	Obtuse Triangle	Right Triangle
$\triangle ABD$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\triangle BDE$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\triangle DCE$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

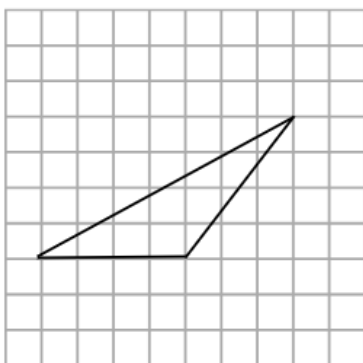
Answer:

	Acute Triangle	Obtuse Triangle	Right Triangle
$\triangle ABD$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$\triangle BDE$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
$\triangle DCE$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Approaching Proficiency: Justify the identification of a triangle as right, acute, or obtuse using each shape's specific attributes.

A triangle is given as Figure A.

Figure A



This item is DOK 1 because students must use the definitions of the triangle types to inform their response.

This is easy because a discrete model is given.



Select the **three** statements that are true about the triangle in Figure A.

- ☐ The triangle is acute.
- ☐ The triangle is obtuse.
- ☐ The triangle has 3 acute angles.
- ☐ The triangle has 2 acute angles.
- ☐ The triangle has 1 obtuse angle.
- ☐ The triangle has 1 right angle.

Answer:

- ☐ The triangle is acute.
- ☒ The triangle is obtuse.
- ☐ The triangle has 3 acute angles.
- ☒ The triangle has 2 acute angles.
- ☒ The triangle has 1 obtuse angle.
- ☐ The triangle has 1 right angle.

Which two statements describe a right triangle?

- ☐ has parallel lines
- ☐ has perpendicular lines
- ☐ has two angles that are equal to 90°
- ☐ has three angles that are less than 90°
- ☐ has two acute angles and one angle equal to 90°

Answer:

- ☐ has parallel lines
- ☒ has perpendicular lines
- ☐ has two angles that are equal to 90°
- ☐ has three angles that are less than 90°
- ☒ has two acute angles and one angle equal to 90°

This item is DOK 1 because students must use the definitions of the triangle types to inform their response.

This is medium because no model is given.



Table 1 gives the angle measurements of three triangles. Classify each triangle as acute, obtuse, or right using the measurements given.

Table 1: Triangles

Triangle Angle Measurements	Acute Triangle	Obtuse Triangle	Right Triangle
$35^\circ, 65^\circ, 90^\circ$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$63^\circ, 55^\circ, 62^\circ$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$43^\circ, 94^\circ, 43^\circ$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Answer:

Triangle Angle Measurements	Acute Triangle	Obtuse Triangle	Right Triangle
$35^\circ, 65^\circ, 90^\circ$	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
$63^\circ, 55^\circ, 62^\circ$	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$43^\circ, 94^\circ, 43^\circ$	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

This item is DOK 1 because students must use the definitions of the triangle types to inform their response.

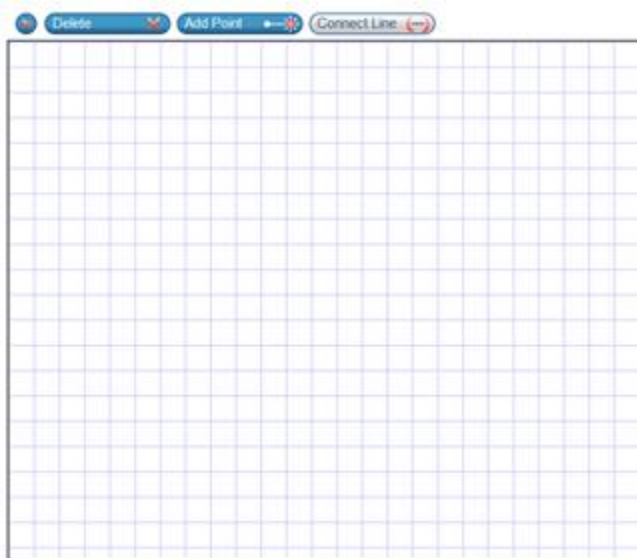
This is medium difficulty because no model is given.

At Proficiency: Construct examples and non-examples of right, acute, or obtuse triangles using appropriate tools; OR determine the radius or diameter of a circle.

Use the **Connect Line** tool to construct an obtuse triangle.

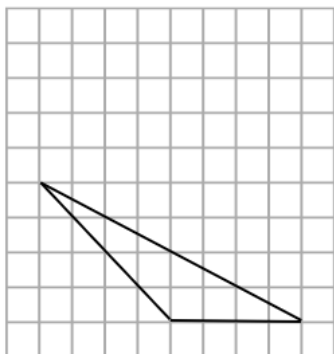
This item is DOK 2 because students must go beyond the definition of obtuse triangle to inform their response.

This is difficult because a model must be



Answer:

Answers will vary, however there should be one obtuse angle present.



constructed.

The radius of a circle is 5 inches.

What is the diameter, in inches, of the circle?

inches

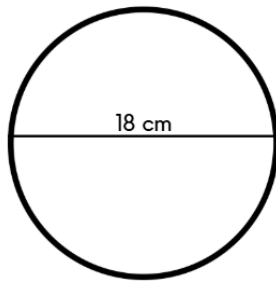
Answer: 10

This item is DOK 1 because students must use the definitions of radius and diameter to inform their response.

This is medium difficulty because no model is given.

A circle is given.

This item is DOK 1 because students must use the definitions of radius and diameter to inform their response.



What is the radius, in centimeters (cm), of the circle?

 centimeters

Answer: 9

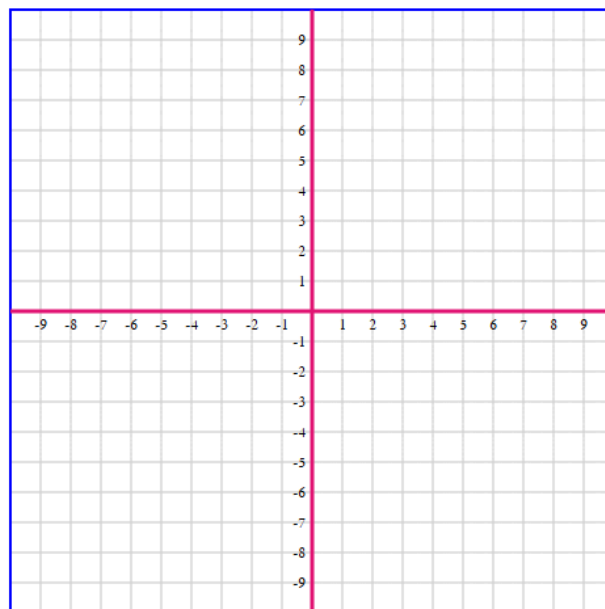
This is easy because a model is given.

Above Proficiency: Construct a circle with a given radius or diameter on a coordinate grid.

Use the Circle Tool to construct a circle with a radius of 4 units. Add a circle to the graph, then drag any point on the circle to change its size.

Choose Which Object To Draw

Circle



Answer:

DOK 1 because students must use the definitions of radius and diameter to inform their response.

This is difficult because students must construct a model based on given parameters.

