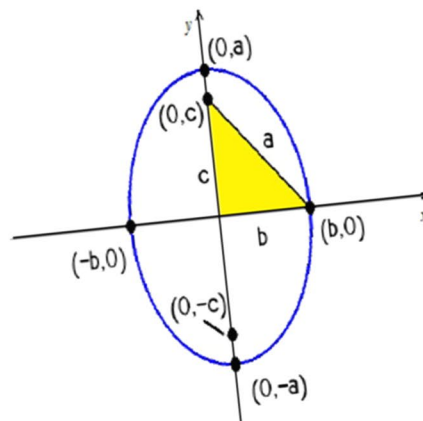
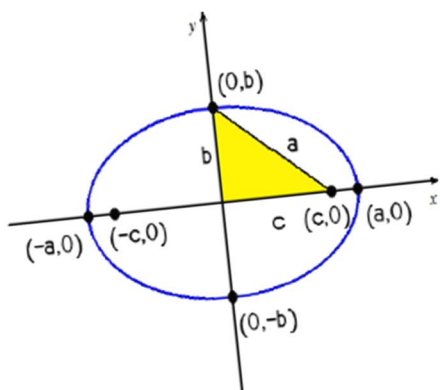


Precalculus Honors

Conic Sections & Analytic Geometry



Pythagorean Relations



Standard Forms of the Equations of an Ellipse

the equation of an ellipse with center at the origin, and major and minor axes of lengths $2a$ and $2b$ respectively. The foci are on the major axis, at a distance c from the origin, where $c^2 = a^2 - b^2$.

Guided Notes

8

Completely Editable

PRECALCULUS CURRICULUM

Scope and Sequence

Unit 8: Conic Sections & Analytic Geometry

Lesson	Skills & Learning Objectives
[8.1] Parabolas	☐ Find the equation, focus and directrix of a parabola ☐ Write parabolas in standard form by completing the square ☐ Graph parabolas given standard form ☐ Write the equation of a parabola given key features
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Lesson 8.1: Parabolas

DEFINITION OF A PARABOLA

A parabola is the set of all points (x, y) in a plane that are equidistant from the **directrix** (a fixed line) and the **focus** (a point not on the line).

The intersection of a plane and a double-napped cone will create the basic conic sections, **circle**, **parabola**, **ellipse** and **hyperbola**. However, when the plane intersects with the vertex a **degenerate conic** will occur. Examples: **point**, **single line**, or **intersecting lines**.

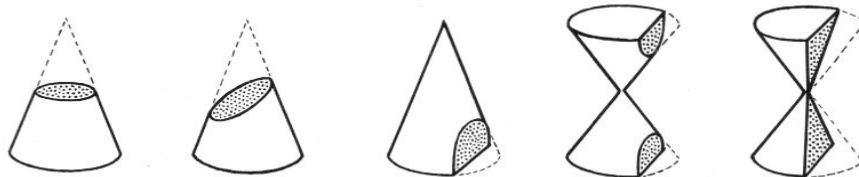


Image used with permission: Pearson Scott Foresman

The conic sections can be defined algebraically as the graphs of **second-degree (quadratic) equations in two variables**, that is, equations of the form

$$Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$$

where A , B , and C are not all zero.

Verbal Vocabulary

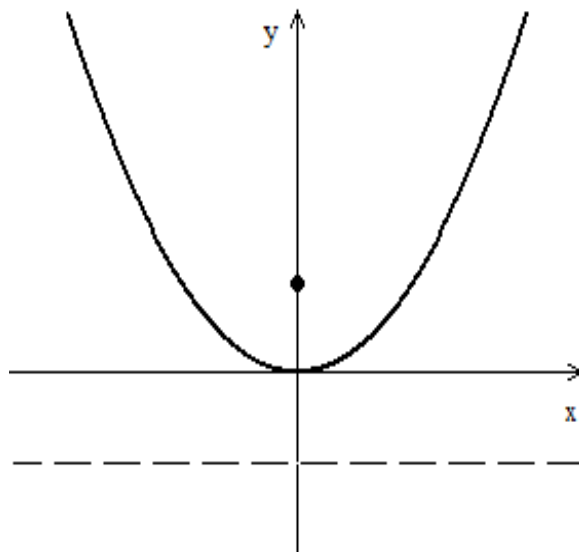
Exploration: Label the parabola in the visual vocabulary at the right, using the highlighted words below.

The **directrix** is a fixed line that is $\pm p$ units from the vertex. The line passing through the focus and perpendicular to the directrix is called the **axis of symmetry**.

The value p , the directed distance from the **vertex** to the **focus** of the **parabola** is called the **focal length**.

A line segment that passes through the focus and has endpoints on the parabola is the **focal width (chord)**. It is parallel to the directrix. The value $|4p|$ is called the **latus rectum** and is the length of the chord through the focus and **perpendicular** to the axis.

Visual Vocabulary



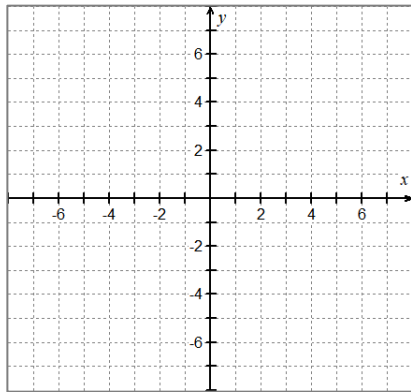
PRECALCULUS CURRICULUM

Scope and Sequence

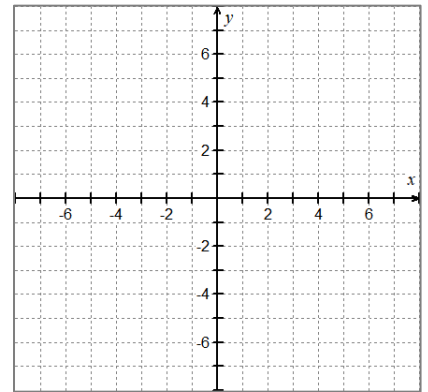
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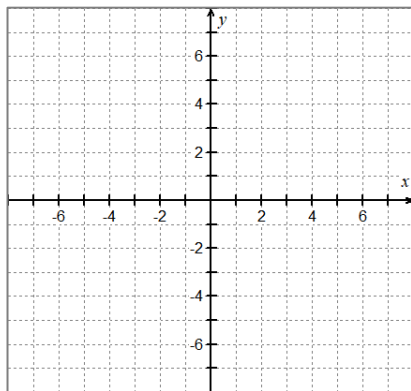
9. Focus at $(1,3)$; directrix $x = -3$



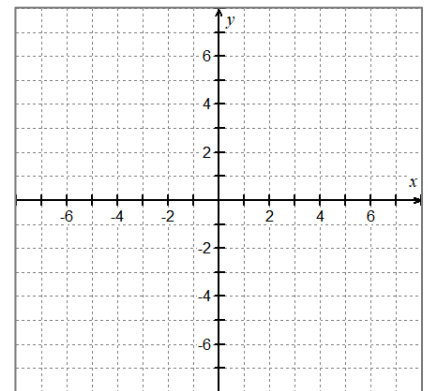
10. Vertex at $(4, -2)$; focus at $(6, -2)$



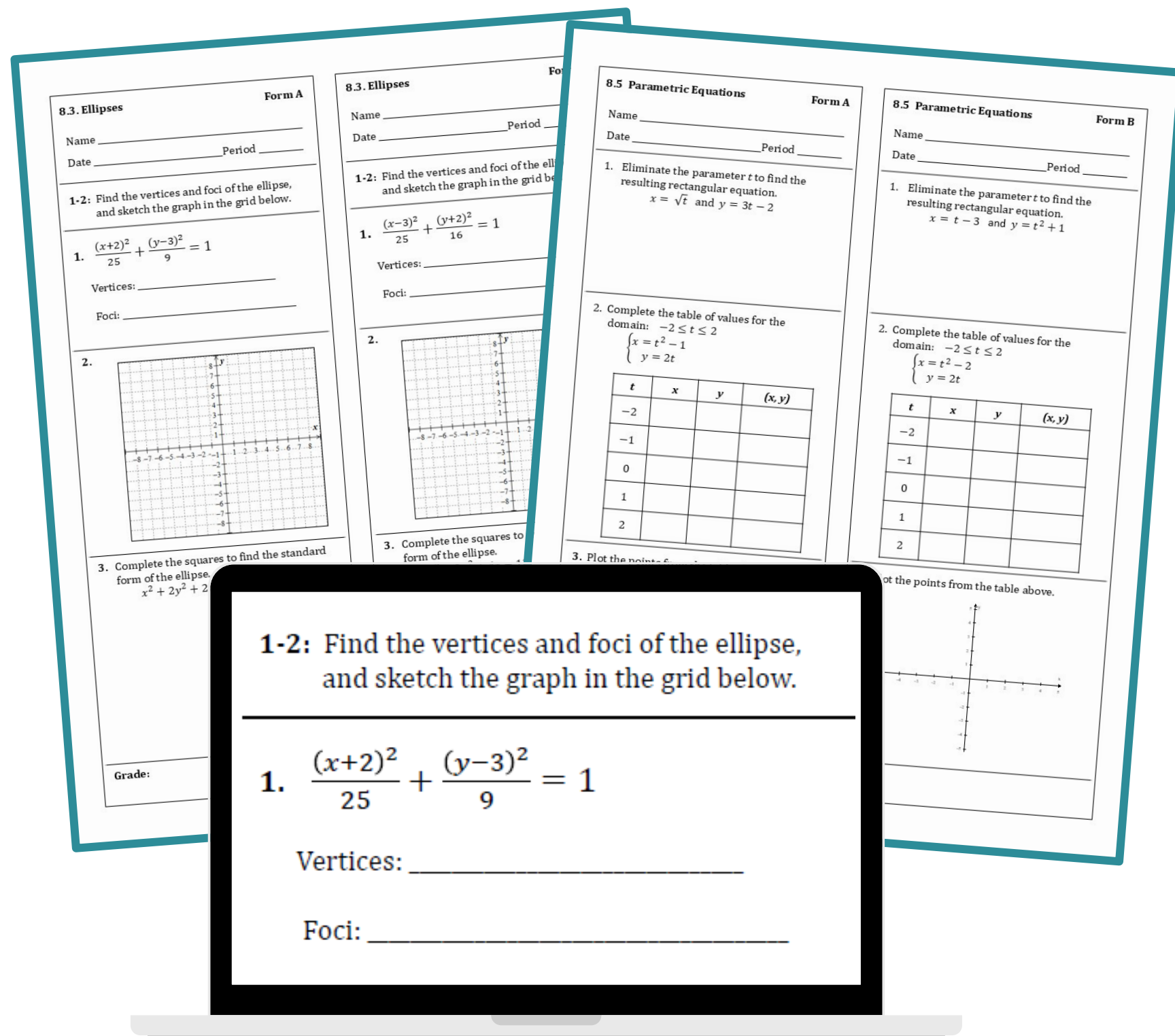
11. Focus at $(-2,2)$; directrix $y = 6$



12. vertex at $(1,3)$; axis of symmetry $y=3$;
containing the point $(0,1)$



WHAT IS INCLUDED?



✓ Editable Daily Lesson Quizzes

✓ Full solution sets

✓ Two different versions

✓ Scope and Sequence

✓ Pacing Guide

Cover the Standards

Each daily lesson quiz will provide you and your students with the skills and learning objectives necessary for success in the Honors Environment.

- ☐ You will find a scope and sequence document to track the learning objectives for the unit.
- ☐ Each daily quiz is available in two unique forms.
- ☐ You will also have a **fully-editable version** for every lesson to create extra assessment tools.
- ☐ A pacing guide for your lessons.

PRECALCULUS CURRICULUM	
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Rigorous assessments aligned to course standards is here.



Where do you find extra time to write rigorous Precalculus assessments?

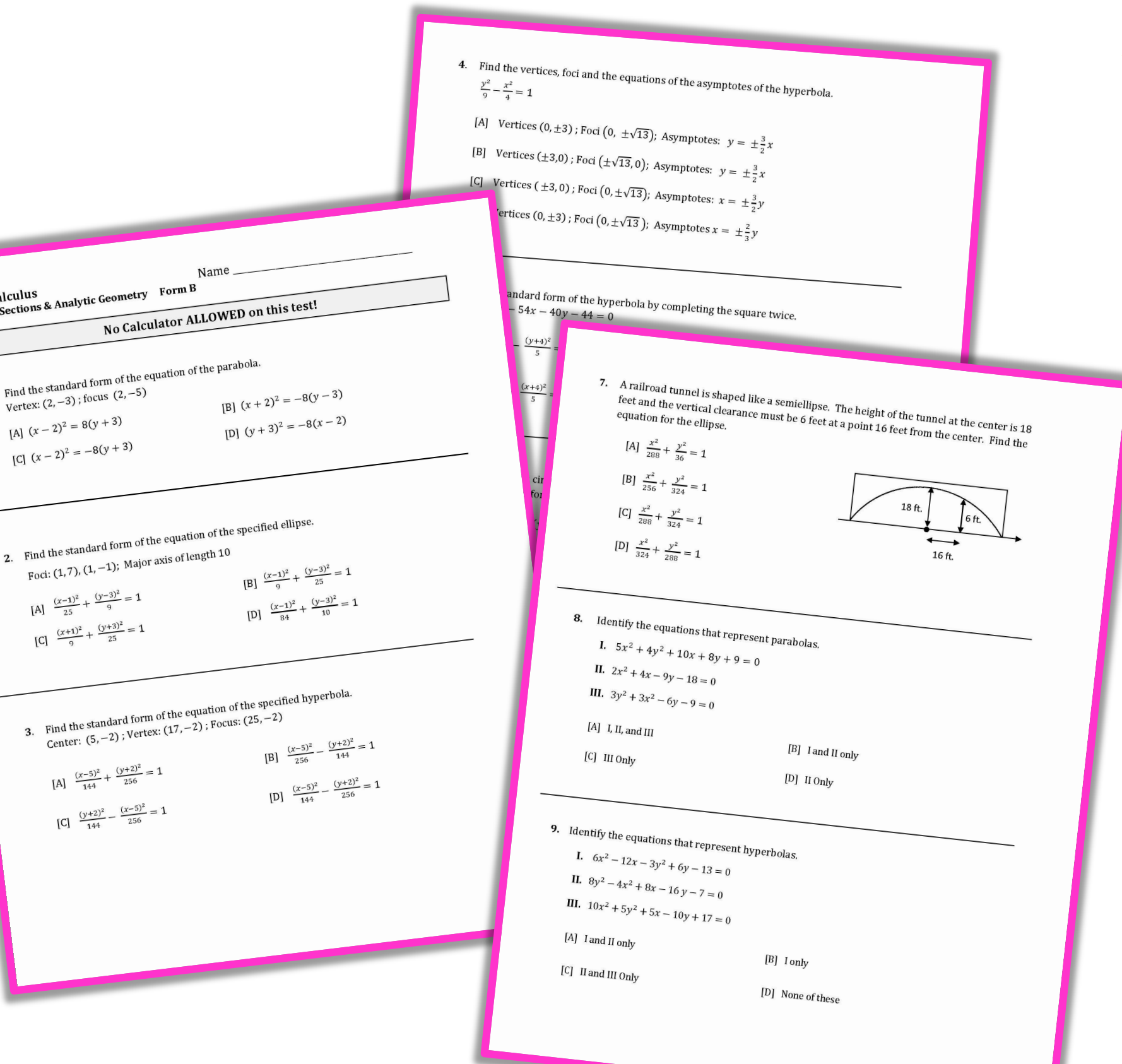


Is your class instruction aligned to the course learning objectives and topics?



You need assessments that will challenge your students to the rigor of Precalculus Honors for success.

Flamingo Math will be your silent testing partner!



WHAT IS INCLUDED?



Editable Review assignments



Editable assessments



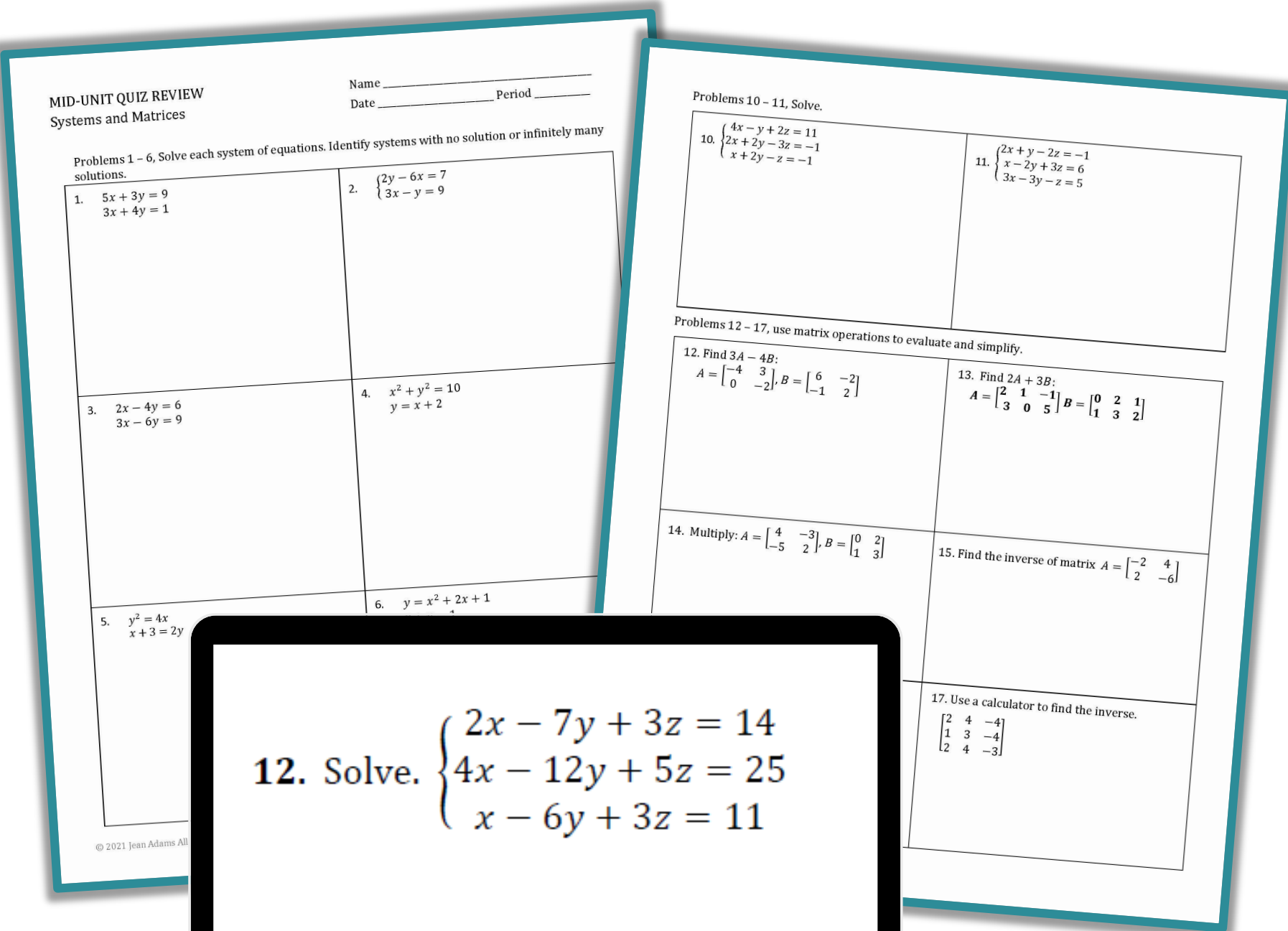
Full solution sets



Extra Practice Topics



Scope and Sequence



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