



McGraw-Hill Illustrative Mathematics[®]

Algebra 1 | Algebra 1 Supports | Geometry | Algebra 2

To learn more about McGraw-Hill Illustrative Mathematics please visit mheonline.com

Supporting the Illustrative Mathematics Mission

As an IM Certified™ Partner, McGraw-Hill is committed to providing the support needed to successfully implement *Illustrative Mathematics*. A portion of every purchase is earmarked toward supporting the continued development of high-quality math curriculum.

Creating a World Where Learners Know, Use, and Enjoy Mathematics

Illustrative Mathematics is a problem-based curriculum designed to address content and practice standards to foster learning for all. Students are encouraged to take an active role to see what they can figure out before having things explained to them or being told what to do.

The McGraw-Hill Difference

Only McGraw-Hill delivers certified *Illustrative Mathematics* content specifically designed for digital, print, and hybrid implementations backed by the support only McGraw-Hill can offer.

- Personalized service and support from a local McGraw-Hill sales representative
- A team of curriculum specialists to support your implementation
- On-demand customer service to get help when you need it
- Options to bundle with *ALEKS* Personalized Learning*

*ALEKS is not IM certified

Enhanced Print Resources

McGraw-Hill *Illustrative Mathematics* offers engaging color print resources for both students and teachers. Teacher resources have an Improved layout that provides a higher degree of usability and supports instruction more efficiently.

Warm Up 103 Notice and Wonder: Transformed (10 minutes)

The purpose of this warm up is to elicit the idea that some shapes can be described as transformations of other shapes, which will be useful when students specify sequences of rigid transformations that take one figure onto another in the next activities. While students may notice and wonder many things about these figures, the important discussion point is that rigid transformations take sides to sides of the same length and angles to angles of the same measure.

Instructional Routines
See the Appendix, beginning on page A1, for a description of this routine and all Instructional Routines.

Standards Alignment
Building On 8.G.A.2
Building Towards HSG.CO.A.2, HSG.CO.A.5

Launch
Display the image for all to see. Ask students to think of at least one thing they notice and at least one thing they wonder. Give students 1 minute of quiet think time, and then 1 minute to discuss the things they notice with their partners, followed by a whole-class discussion.

Support For: Students with Disabilities
Active and Expressive: Internalize Executive Functions. Provide students with a table to record what they notice and wonder prior to being expected to share these ideas with others.
Supports accessibility for: Language, Organization

Activity Synthesis
Ask students to share the things they noticed and wondered. Record and display their responses for all to see. If possible, record the relevant reasoning or note the insight. After all responses have been recorded without commentary or editing, ask students, "Is there anything on this list that you are wondering about now?" Encourage students to respectfully disagree, ask for clarification, and point out contradicting information. If sequences of rigid transformations or corresponding measurements do not come up during the conversation, ask students to discuss this idea. Reinforce that because the sizes, shapes, and angles did not change from Figure 3 to Figure M, that transformation is called a **rigid transformation**. But the transformation from Figure 3 to Figure D is **not** a rigid transformation because the size changed.

If the difference between A and A' does not come up during the conversation, ask students to discuss this idea and tell them that A' is pronounced "A prime." Explain that ABCD is called the original figure and A' B' C' D' is called the **image** of the transformation.

94 Unit 1 Congruence and Rigid Transformations

Teacher Materials offer Improved formatting that makes lessons easier to follow and brings greater focus to lesson prompts that support students with disabilities and English-Language Learners.

Practice
Building Quadratic Functions to Describe Situations (Part 2)

1. The height of a diver above the water is given by $f(t) = -5t^2 + 10t + 3$, where t is time measured in seconds and $f(t)$ is measured in meters. Select all statements that are true about the situation.

- A The diver begins 5 meters above the water.
- B The diver begins 3 meters above the water.
- C The function has 1 zero that makes sense in this situation.
- D The function has 2 zeros that make sense in this situation.
- E The graph that represents h starts at the origin and curves upward.
- F The diver begins at the same height as the water level.

2. The height of a baseball, in feet, is modeled by the function h given by the equation $f(t) = 3 + 60t - 16t^2$. The graph of the function is shown.

a. About when does the baseball reach its maximum height?

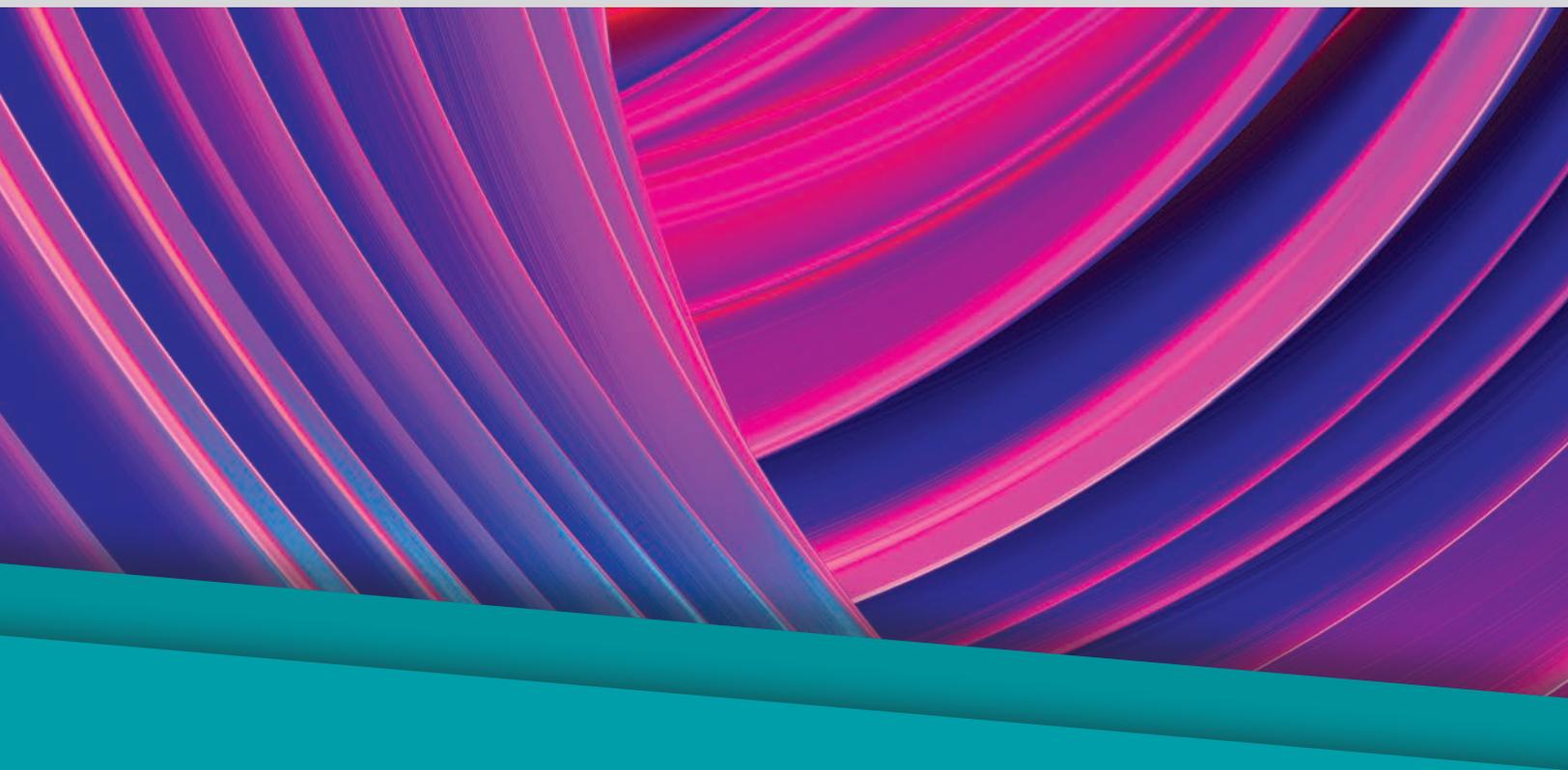
b. About how high is the maximum height of the baseball?

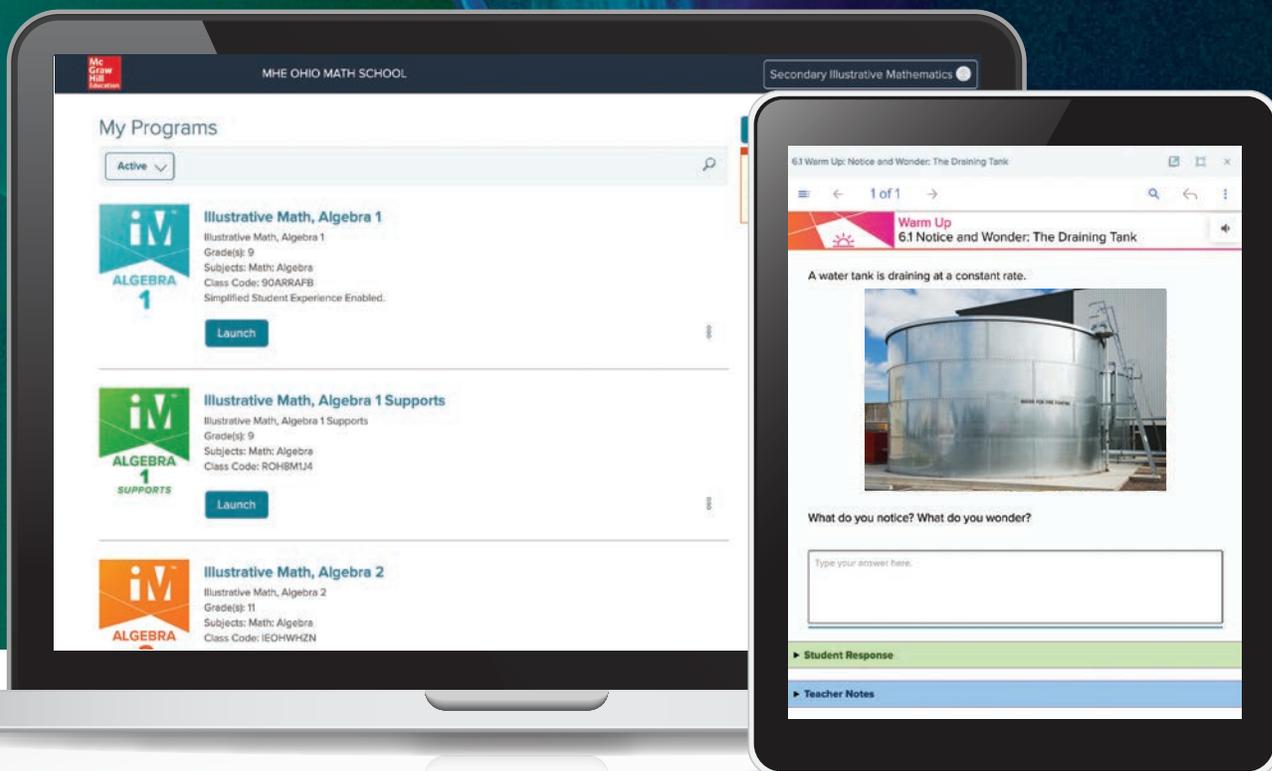
c. About when does the ball hit the ground?

290 Unit 6 Introduction to Quadratic Functions

SE250

Student Materials provide a more engaging experience for students with improved layouts in full color.





Digital Student and Teacher Editions

McGraw-Hill *Illustrative Mathematics* offers flexible implementations with both print and digital options that fit a variety of classrooms.

Online resources offer:

- Customizable content.
- The ability to add resources.
- Auto-scoring of student practice work.
- Ongoing student assessments.
- Classroom performance reporting.

Launch Presentations

Access and present digital versions of lessons.

View Actionable Reports

Review the performance of individual students, classrooms, and grade levels.

Access Resources

Point-of-use access to resources such as assessments, eBooks, and course guides.

ALEKS®



A Personalized Pathway to Math Proficiency

*ALEKS® is an online personalized learning solution for grades 6–12. ALEKS can be bundled with *Illustrative Mathematics* to provide targeted, supplemental assessment and instruction. It uses artificial intelligence to identify and provide instruction on the topics each student is most ready to learn. A continuous cycle of assessment, learning, and reinforcement adapts instruction to the individual needs of each student and customizes a unique learning pathway to help accelerate students to standard mastery. The program's three-phase cycle keeps students engaged by challenging them with concepts they are ready to learn, thus eliminating boredom and frustration.

*ALEKS is not IM certified

Features:

- An algorithm that generates a unique problem set for every student, every time.
- Detailed explanations for every problem—including dictionary and video resources.
- Learning Mode open-response problems and intuitive input tools provide an authentic measure of conceptual understanding.
- Pie reports provide an in-depth analysis of student progress in multiple topics.
- Insights reports that identify students who may need intervention.
- Content in English and Spanish.
- Progress monitoring of students' mastery of the mathematical standards.
- Dynamic data at the student, class, school, and district level.

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