Lesson 10 overview

Geometric reasoning

Activity	Time (min)	Description/Prompt	Materials
Introduction	15	The focus at the start of the lesson is to establish students' existing knowledge about angles and parallel lines. Ask students to work in pairs to produce a poster to show what they already know about angles. As students work, identify a couple of students to share their posters with the rest of the class. Discuss students' posters, highlighting the key information needed for the lesson. Encourage students to add to their posters during the discussion to develop existing knowledge and deepen understanding.	A3 paper Coloured pens Slides 2–7
Explore/ Discuss 1	15	Introduce problems that involve parallel lines and triangles and ask students to identify the information needed to be able to answer the questions posed. By posing a question where the answer does not need to be determined by students, but instead the focus is on identifying the information required to be able to answer the question, students' confidence can be built. You may want to print out the handout and ask students to work on it in pairs. Alternatively, you could work on it together as a whole class.	'What do we need to know?' handout (optional) Slides 8–11
Explore 2	25	Introduce a new problem involving angles and parallel lines and use it to model what students will do in the pair work. Ask students to work in pairs to identify the information needed to be able to answer the questions posed in the four scenarios on the handout. Emphasise the use of properties of angles to support their reasoning. Providing students with an opportunity to apply their previous understanding of angle properties with their newly developed understanding of reasoning helps to develop students' fluency and understanding.	'Geometric reasoning' handout Slides 12–15

Discuss 2	15	Check that students have answered the questions posed correctly and explore different strategies. It is important that students have their approach validated and feel that they have something to contribute to the discussion, so as to build their confidence.	Slides 16–19
Review	10	Ask students to review their posters and make any necessary additions. Providing this opportunity allows students to deepen their understanding whilst building on existing knowledge. Bring the discussion to an end by consolidating the things students need to remember for geometric reasoning.	Slides 20–21
Practice questions/ Discuss 3	10	Ask students to work individually to answer some practice exam questions. There are two questions each with two parts. You may want to choose just one question or parts of a question for your class. When students have had sufficient time to complete the questions, discuss their work. Emphasise the importance of not making assumptions and check that students' reasoning is correct.	'Practice questions' handout Slides 22–26

