

Geometry

The 6 C's

CONCEPTS & PROCEDURES

Practices 2 & 6

Mattel plans to create an action figure of Joe Stud who is 6 feet tall with a 40-inch chest. If the doll will be 10 inches tall and proportional to Joe, how big should the doll's chest be?

CRITICAL THINKING

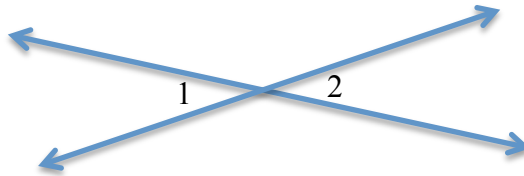
Practices 1 & 5

A cube is painted orange then cut twice in all three dimensions (like a Rubik's cube), then dropped. Of all the little cubes that are now on the floor, how many are painted on . . . 1 face, 2 faces, 3 faces, 4 faces, 0 faces?

COMMUNICATING REASONING

Practices 3 & 7

What is true of the relationship of all pairs of vertical angles? Show that your conjecture is true in all cases.



CONSTRUCTING MODELS

Practices 4 & 8

A string is wrapped around the earth's equator. One meter is then added to the string, and the string is lifted equidistant from the earth's surface (assume a sphere). How high will the string be from the surface of the earth?