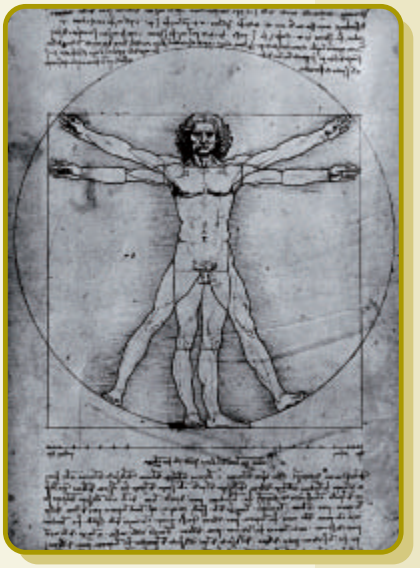
da Vinci's Ratio

You need ☑ a measuring tape ☑ a calculator ☑ a computer

Leonardo da Vinci concluded that a person's height is about equal to their arm span, measured fingertip to fingertip.



Investigation One

1. Investigate the truth of da Vinci's conclusion:
   - Copy the table into your book.
   - Measure the arm span and height of at least 10 people. (You don't need to write their names.)
   - For each person, calculate arm span ÷ height.

Person	*Arm span (cm)*	*Height (cm)*	*Arm span ÷ height (as a decimal)*
One			
Two			
Three			

2. a. What would a "1" in the last column of your table mean? What does it mean when the number in this column is less than (or greater than) 1?
   b. Do the ratios in the last column support or contradict da Vinci's conclusion? Explain.
   c. What might da Vinci say to explain the ratios that are above or below 1?
   d. Enter the arm spans and heights of your 10 (or more) people into a spreadsheet and create a scatter plot graph. Describe what you see.

Investigation Two

1. Carry out a similar investigation to discover what relationship there is between a person's height and the circumference of their head.
2. Using your findings, what might be the head circumference of these three people:
   a. Sue, who is 156 centimetres tall?
   b. Katherine, who is 183 centimetres tall?
   c. Leah, who is 166 centimetres tall?