

## Order on the court

### Link to Australian Core Skills Framework:

Students performing at a Level 3, typically select appropriate strategies from a variety of everyday mathematical processes in familiar and some less familiar contexts. They interpret and comprehend mathematical information in written material, diagrams, charts and tables. They use large whole numbers in words and figures, and understand and convert routine fractions, decimals and percentages.

### Link to Numeracy Learning Progressions:

**Table 1 – Numeracy Learning Progressions and their descriptors**

Level	Indicator
PoL5	Interprets maps and plans <ul style="list-style-type: none"> <li>interprets the scale as a ratio used to create plans</li> <li>interprets plans involving scale</li> </ul>
CoU1	Building ratios <ul style="list-style-type: none"> <li>represents and models ratios using diagrams</li> </ul>
CoU2	Rates <ul style="list-style-type: none"> <li>interprets rates as a relationship between two different types of quantities</li> </ul>
UuM7	Using formal units <ul style="list-style-type: none"> <li>measures, compares and estimates length</li> <li>calculates perimeter using properties of two-dimensional shapes to unknown lengths</li> </ul>
UuM8	Converting Units <ul style="list-style-type: none"> <li>converts between formal units of measurement</li> </ul>

# Learning intention

Students will learn to:

- do conversions of units
- calculate price per court
- complete a scale drawing
- communicate their reasoning and justify their responses

## Resources required

- computer with access to internet
- paper or book to record results
- calculators

### Part A: How big is that courts?

Scenario: Your school basketball court has just been resurfaced and as a result all of the lines for different sports have been lost. Your task is to prepare a report for the Principal that includes a scaled drawing with each of the courts drawn and clearly labelled. The sport courts that need to be included are:

- basketball
- netball
- volleyball
- badminton
- tennis

1. Create a table with the column headings below. For each sport you will need to know the length and width in metres along with any special markings such as centre circles.

Sport court	Length (m)	Width (m)	Special markings
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2. Draw a separate diagram of each court, showing the length, width and special markings.
3. Choose an appropriate scale and create a scale drawing, showing a plan of the layout of how the different lines will be marked on your court. Use different colours for each court, with a key to identify each one. For example, blue is the basketball court, red is the netball court.

## Part B: Painting the courts

4. Calculate the perimeter of each court.
5. For each court calculate the total length of any internal line markings.

Use the table below to record your answers to Q4 and Q5

Sport court	Outside perimeter (m)	Internal lengths (m)	Total line length
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6. Line marking paint comes in 500g spray cans. They sell for \$22.50 per can and can mark 120 metres of lines. The paint cans come in the following colours- black, blue, green, grey, orange, red, white and yellow. Determine how many cans you will need to purchase for each of the courts and the cost for each court.
7. Before you can mark the courts, you will need to know if the lines all need to be the same thickness. Investigate the width of each of the line markings for the courts.
8. Prepare your report for the school Principal, include your scale drawing and costing for each of the courts, as well as the total cost for the project.