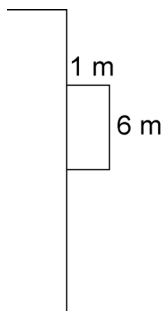


## Practice: Perimeter and Area Relationships of a Rectangle

- A rectangle has perimeter 16 units.
  - List all the possible whole-number dimensions of the rectangle.
  - Which dimensions produce the rectangle with maximum area?
  - Describe the shape of the rectangle with maximum area.
- List all the possible whole-number dimensions for a rectangle with each perimeter. Circle the dimensions that produce the rectangle with the maximum area.
  - 28 units
  - 12 units
  - 22 units
  - 8 units
  - 14 units
  - 26 units
- What whole-number dimensions will produce the rectangle with maximum area given each perimeter?
  - 96 m
  - 110 m
  - 68 m
  - 72 m
- What whole-number dimensions produce the rectangle with the least perimeter given each area?
  - $20 \text{ m}^2$
  - $32 \text{ m}^2$
  - $64 \text{ m}^2$
  - $54 \text{ m}^2$
  - $120 \text{ m}^2$
  - $48 \text{ m}^2$
- Nicole has 8 m of fencing. She plans to build a pen for her dog. The pen will have fence on three sides. The fourth side will be against the wall of her house. Nicole is considering making the pen 1 m by 6 m as shown.



- What are the other possible whole-number lengths for the fenced sides of the pen?
  - Which side lengths produce the pen with the greatest area?
- Cam is building a fenced-in play yard for his small children against one wall of his house. He has 12 m of fencing. What whole-number dimensions produce the play yard with the greatest area?