Visualizing Problems

Changes to Area and Perimeter

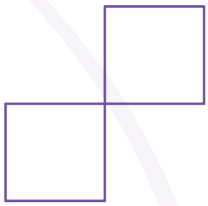
Draw these diagrams and use units to measure area and perimeter, let the students record their measurements in a grid.

One Square

Perimeter 4 units

Two Squares

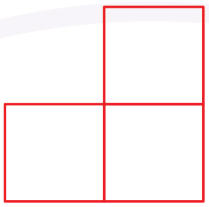
Perimeter 6 units



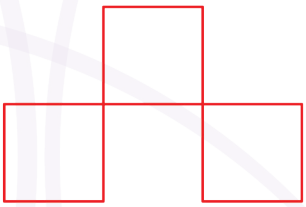
Perimeter 8 units

Three Squares

Perimeter 8 units



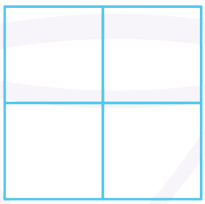
Perimeter 8 units



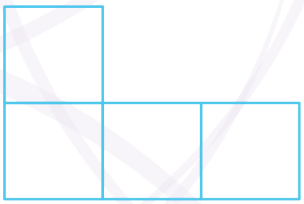
Perimeter 12 units

Four Squares

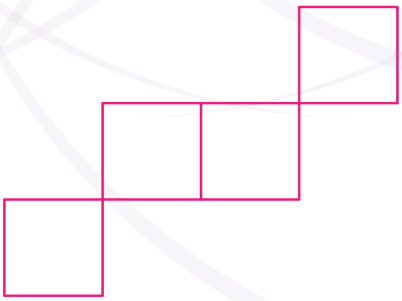
Perimeter 10 units



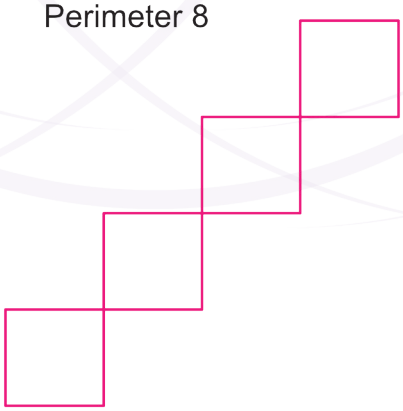
Perimeter 8



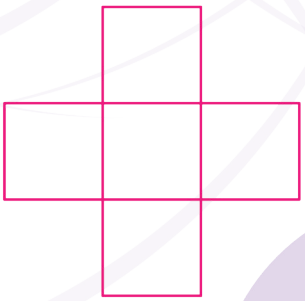
Perimeter 10



Perimeter 14 units



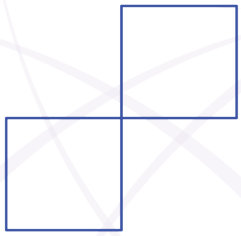
Perimeter 16 units



Perimeter 12

Visualizing Problems

Changes to Area & Perimeter and Changes to Point of Rotation



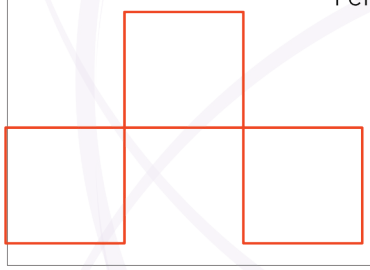
Area can change without affecting perimeter:

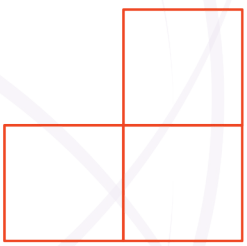
Area changes from $2u^2$ to $3u^2$
Perimeter unchanged 8 units.

Area can change along with perimeter:

Area changes from $2u^2$ to $3u^2$
Perimeter changes from 6 units to 8 units.

Perimeter can change without having an effect on area.
Area stays $3u^2$
Perimeter changes from 12 units to 8 units.





How changing the point of rotation along with angle magnitude influence the end result.

A

Rotation Clockwise.

No intersecting sides.

Sides line up as you rotate.

B

Rotation Clockwise

Intersecting sides.

Longest side rotate so that it halves the top left vertex with each rotation.