Same Area, Different Perimeter

Make three rectangles with an area of 18 square feet that have a different perimeter. Use grid paper or color tiles to help you.

1st Rectangle	**2nd Rectangle**	**3rd Rectangle**

Find the area:
$A = \ell \times w$
$= 18 \times 1$
$= 18$ square feet

Find the area:
$A = \ell \times w$
$= 6 \times 3$
$= 18$ square feet

Find the area:
$A = \ell \times w$
$= 9 \times 2$
$= 18$ square feet

Find the perimeter:
$P = (2 \times \ell) + (2 \times w)$
$= (2 \times 18) + (2 \times 1)$
$= 36 + 2 = 38$ feet

Find the perimeter:
$P = (2 \times \ell) + (2 \times w)$
$= (2 \times 6) + (2 \times 3)$
$= 12 + 6 = 18$ feet

Find the perimeter:
$P = (2 \times \ell) + (2 \times w)$
$= (2 \times 9) + (2 \times 2)$
$= 18 + 4 = 22$ feet

Solve.

1. Draw two different perimeters of a rectangle with an area of 14 units. Name their dimensions.

2. What is the greatest perimeter of a rectangle with an area of 39 square feet? _____

3. What is the least perimeter of a rectangle with an area of 32 square feet? _____

4. **Reason** A rectangle has an area of 42 square inches. Which has a greater perimeter, the rectangle with the dimensions 21×2 or the dimensions 6×7? _____