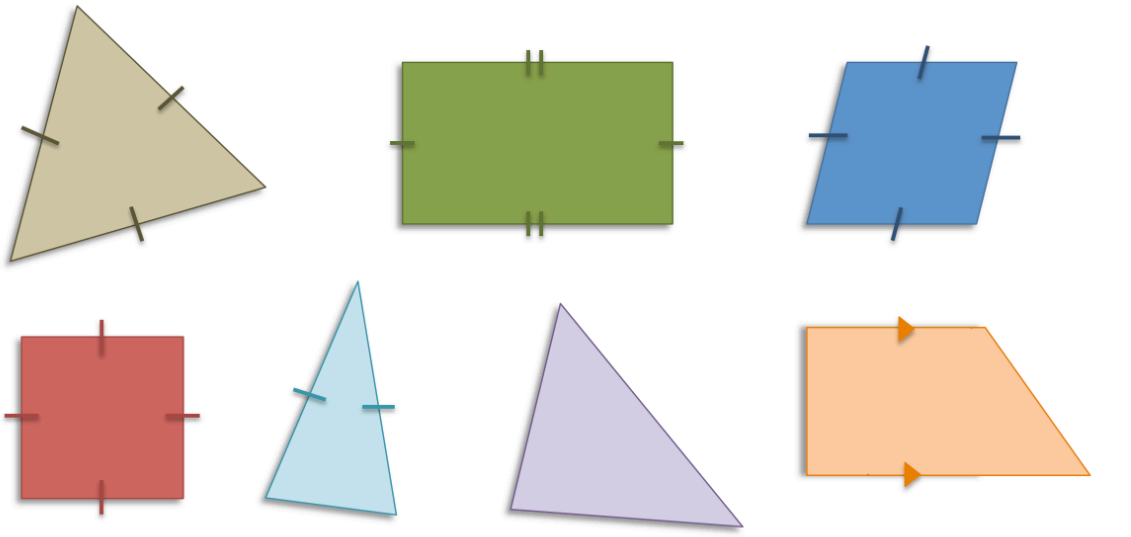
Thinking About Perimeter



- How would I define *perimeter* for any polygon?

- How would I describe a solution that could be used for calculating the perimeter of any polygon?

- How would I explain why the perimeter of a square could also be calculated using multiplication?

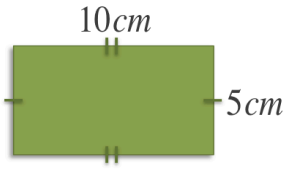
- How would I determine when it's possible to use a multiplication solution, similar to the square, for calculating a perimeter distance?

- How would I describe situations where it will not be possible to use multiplication to calculate a perimeter distance?

- When could a perimeter solution involve performing both multiplication and addition?

Compare the two solutions for calculating the perimeter of the rectangle.

$$P = 2(l) + 2(w)$$
$$P = 2(10) + 2(5)$$
$$P = 20 + 10$$
$$P = 30cm$$



$$P = 2(l + w)$$
$$P = 2(10 + 5)$$
$$P = 2(15)$$
$$P = 30cm$$

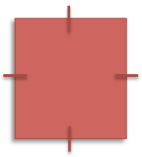
- How are the two solutions similar?

- How would I describe what's different?

How would I explain and demonstrate why a division calculation will solve the problem below?

The perimeter of a square is 68 cm.

How long would each side be?

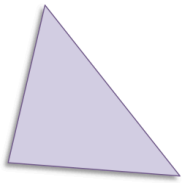


How could I verify my previous division solution using addition and multiplication?

In the next example, I'll use a diagram to illustrate and explain my solution to the problem.

The base of a triangle is 5 cm. This is four cm shorter than the length of another side.

If the perimeter of the triangle is 25 cm, what is the length of each side?

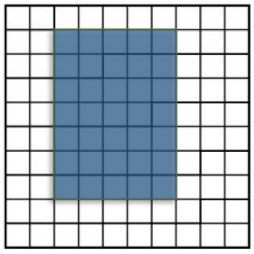


- How would I explain and illustrate…*the perimeter of the triangle is 25 cm?*
- How would I explain and illustrate… *the base of the triangle is 5 cm?*
- How would I use… *5 cm is four cm shorter than the length of another side…* to calculate a distance or measure?

- How would I show my thinking in calculating the third measure of my triangle?

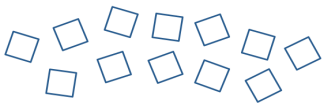
- How would I verify that my solution is correct?

- How would I demonstrate using the grid to determine the perimeter of the rectangle?

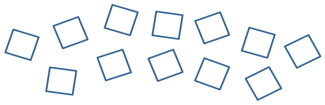


- What other measure does the grid allow me to calculate? How would I compare this measure to perimeter?

- How would I demonstrate using the square tiles to draw rectangles with an area $12cm^2$, but all having different perimeter measures?



- How would I use the tiles to draw rectangles that have a perimeter distance of 12 units, but all having different area measures?



Thinking About Perimeter – Skills Checklist

- ☑ I can demonstrate how addition is used to calculate any perimeter measure
- ☑ I can describe situations in which multiplication can/cannot be used to calculate the perimeter of a polygon
- ☑ I can describe situations where I could use both multiplication and addition to calculate the perimeter of a polygon
- ☑ I can illustrate how the perimeter of a polygon is different to the area of a polygon
- ☑ I can formulate the measurements of a polygon to produce a specific perimeter and/or area

Thinking About Perimeter - Worksheet