**Lower Elementary:**

*Question:* Tyler has a sticker book that is 20 centimetres wide and 24 centimetres tall. He has a set of stickers that are each 5 centimetres wide and 8 centimetres tall. How many stickers will fit on a page of the sticker book?

**Upper Elementary:**

*Question:* Alli has a box that is exactly the right size to hold 7 layers of 9 rows of 11 cube-shaped erasers. How many erasers fit inside the box?

**Middle School:**

*Question:* Bobby is riding his tricycle around a quarter-kilometre track. If each wheel is 50 centimetres in diameter and turns 100 times, then how much further does Bobby need to pedal in order to complete a lap around the track?

**Algebra and Up:**

*Question:* The tessellating pattern below comprises regular pentagons and rhombuses. Find the measure of ***x***.

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**Lower Elementary:**

*Question:* Tyler has a sticker book that is 20 centimetres wide and 24 centimetres tall. He has a set of stickers that are each 5 centimetres wide and 8 centimetres tall. How many stickers will fit on a page of the sticker book?

*Answer:* 12 stickers

*Solution:* Since each sticker is 5 centimetres wide and each page is 20 centimetres wide, that means Tyler can fit 20 ÷ 5 = 4 stickers in each row. Since the page is 24 centimetres tall and each sticker is 8 centimetres tall, that means Tyler can fit 24 ÷ 8 = 3 rows of stickers on each page. So, Tyler can fit 4, 8, 12 stickers on each page of his sticker book.

**Upper Elementary:**

*Question:* Alli has a box that is exactly the right size to hold 7 layers of 9 rows of 11 cube-shaped erasers. How many erasers fit inside the box?

*Answer:* 693 erasers

*Solution:* The length of the box is equal to 11 erasers, the width is equal to 9 erasers, and the depth is equal to 7 erasers. So, the box will hold 11 × 9 × 7 = 693 erasers in total.

**Middle School:**

*Question:* Bobby is riding his tricycle around a quarter-kilometre track. If each wheel is 50 centimetres in diameter and turns 100 times, then how much further does Bobby need to pedal in order to complete a lap around the track?

*Answer:* 93 metres

*Solution:* Each time the wheels rotate, Bobby moves forward 2π***r*** ≈ 2 × 3.14 × ¼ metre = 1.57 metres. Since a kilometre is 1000 metres, the track is 1000 ÷ 4 = 250 metres. If Bobby turns his wheels 100 times, he will travel 157 metres, which means he will have 250 – 157 = 93 metres left to complete a lap around the track.

**Algebra and Up:**

*Question:* The tessellating pattern comprises regular pentagons and rhombuses. Find the measure of ***x***.

*Answer:* 144°

*Solution:* Since the sum of the measures of all 5 vertices of a pentagon is 540°, that means that each angle is 540° ÷ 5 = 108°. Two 108° angles and ***x*** make a full 360° circle, so 360° – 108° × 2 = 360° – 216° = 144°. So, the measure of ***x*** is 144°.