1. Jim takes 60 minutes to paint 2/5 of a wall. How long does he take to paint the whole wall from scratch?

   Solution: Jim takes 60 minutes to paint 2/5 of a wall, so he would take 30 minutes to paint 1/5 of a wall. To paint the whole wall, he will have to do this 5 times, so it takes him 5x30=**150 minutes** to paint the whole wall.

2. The average age of 3 boys and 3 girls is 8. If the average age of the boys is 7, what is the average age of the girls?

   Solution 1: Since there is the same number of boys and girls, if the boys average to 1 less than 8, the girls must average to 1 more than 8, so the average age of the girls must be 9.

   Solution 2: The sum of the ages of the boys is 3x7=21, since there are 3 boys and their average age is 7. The sum of the ages of the boys and girls together is 6x8=48, since there are 6 children and their average age is 8. This means the sum of the ages of the girls is 48-21=27. Since there are 3 girls, their average age is 27/3=**9**.

3. A chocolate bar has 20 squares. If Kevin ate ¾ of the chocolate bar, how many squares did he eat?

   Solution: ¼ of the chocolate bar consists of 20/4=5 squares. Therefore ¾ of the chocolate bar consists of 3x5=15 squares, so Kevin ate **15** squares.

4. What is the sum of all the numbers between 1 and 20 (including 1 and 20)?

   Solution: We can write the numbers between 1 and 20 as follows:
   1 2 3 4 5 6 7 8 9 10
   20 19 18 17 16 15 14 13 12 11
   If we sum up the 10 columns, we get 10 copies of the number 21. It follows that the sum of the numbers between 1 and 20 is 10x21=**210**.

5. An apple weighs as much as 2 bananas. A banana weighs as much as 6 strawberries. Three peaches weigh the same as two apples. How many strawberries weigh the same as a peach?

   Solution: A banana weighs 6 strawberries and an apple weighs 2 bananas, so an apple weighs the same as 2x6=12 strawberries. This means two apples weigh the same as 2x12=24 strawberries, so 3 peaches weigh the same as 24 strawberries. It follows that a peach weighs the same as 24/3=**8** strawberries.

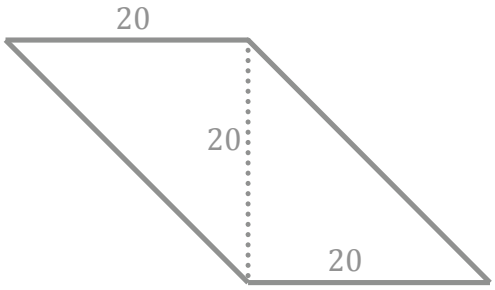
6. Five students, named Al, Bob, Cindy, Dan, and Ed, want to split a pile of 23 pieces of candy. They sit in a circle and take turns eating candy from the pile. Al takes the 1st candy, then Bob takes the 2nd, Cindy takes the 3rd, Dan takes the 4th, Ed takes the 5th, Al takes the 6th, and so on. Who takes the last piece of candy?

Solution: Since there are 5 students, Al takes a candy once every 5 pieces of candy. In other words, Al takes the 1st candy, 6th candy, 11th candy (since 6+5=11), 16th candy (since 11+5=16), and 21st candy (since 16+5=21). Since Al takes the 21st candy, Bob must take the 22nd candy, and Cindy takes the 23rd candy. Therefore **Cindy** takes the last piece of candy.

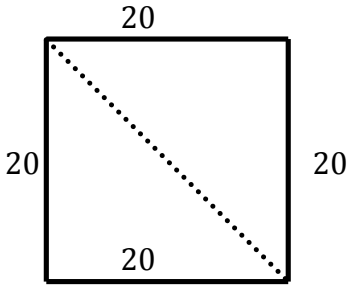
7. Lisa runs at 10 kilometres per hour. A square farm has length 5 kilometres and width 5 kilometres. How long does it take for Lisa to run around the perimeter of the farm?

Solution: The square farm has 4 sides, each of which is 5 kilometres long. Therefore the perimeter of the farm is 4x5=20 kilometres long. Lisa runs at 10 kilometres per hour, so it takes her **2 hours** to run around the farm.

8. A kite was made by gluing together two identical right triangles. Each of the right triangles has two sides of length 20cm. What is the area of the kite?



Solution: If we glue the two right triangles as follows,



Then we get a shape with the same area as the kite. This shape is a square with sides of length 20, so its area is 20x20=400. The area of the kite is therefore **400**.