1   Write these ratios in their simplest form.
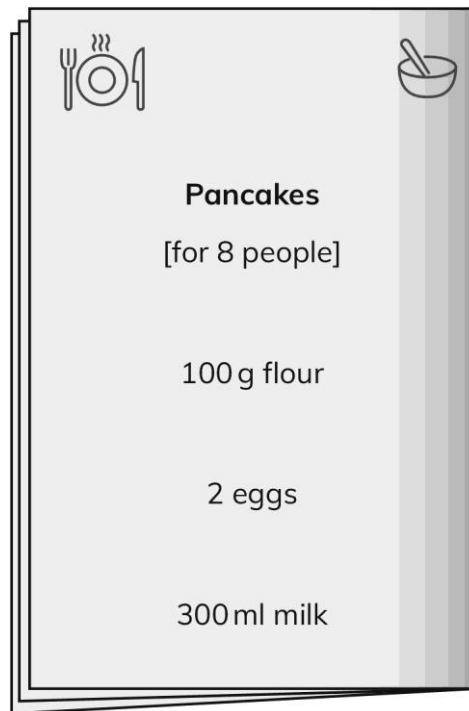
    a   9 : 18   _   1: 9____   b   5 : 35   __   1:7 _____

    c   6 : 18   ___1:3 _____   d   20 : 4   ____5:1_____

2   This is a recipe for pancakes for 8 people.

Pancakes

[for 8 people]

100 g flour

2 eggs

300 ml milk

Write the quantities needed for 16 people.

_____200____ g flour   _____4____ eggs   ____600____ ml milk

3   Three erasers have the same length as 1 pencil.
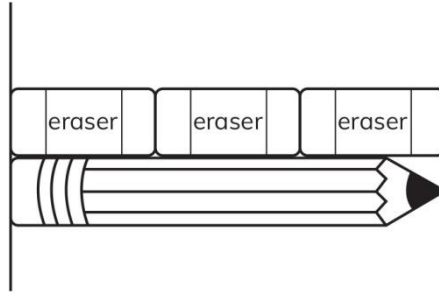
How many pencils have the same length as 18 erasers?

_____6 pencils_____

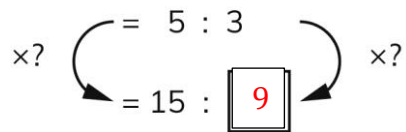4   A machine makes 400 parts in 5 hours.

How many parts will it make in 1 hour?

_____80 parts_____

5   Kirsty plants red and white flowers in the ratio 5 : 3 in her garden.

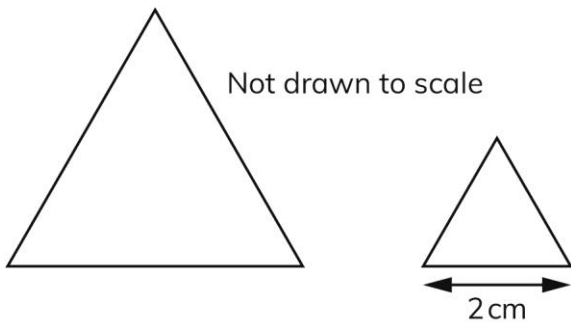She plants 15 red flowers.

Complete the diagram to find how many white flowers she plants.

ratio of red to white flowers

×?   = 5 : 3   ×?

= 15 : [9]

6 Here are two equilateral triangles.

Not drawn to scale

2 cm

The ratio of the length of the sides of the large equilateral triangle to the small equilateral triangle is 4 : 1
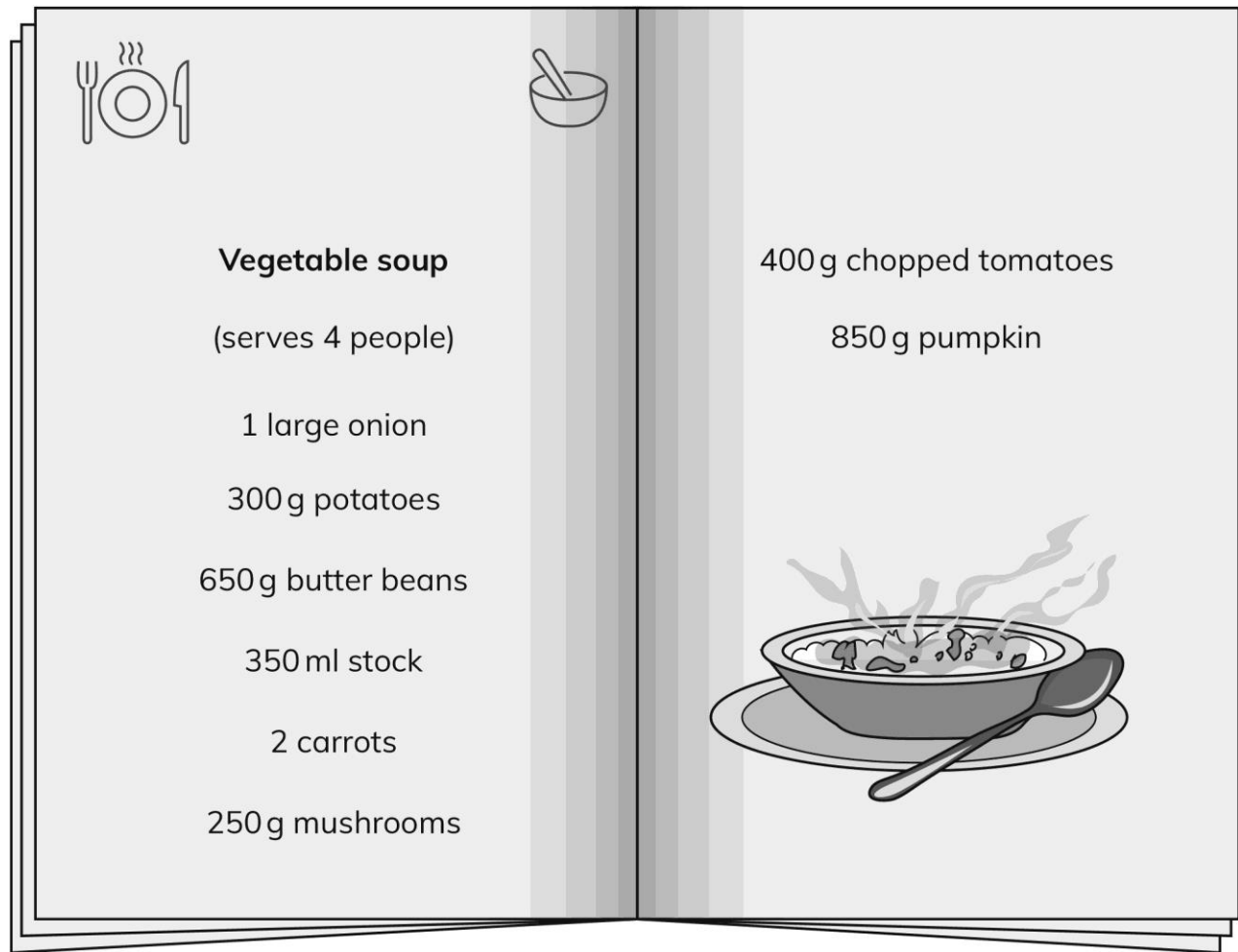
How long is each side of the larger triangle?

_____8_____ cm

7. Large model animals are made to a scale of 1 : 20.

Find the height of each model animal.

	Actual height (in centimeters)	Model height (in centimeters)
Giraffe	580	29
Elephant	360	18
Ostrich	230	11.5
Camel	220	11
Rhinoceros	190	9.5
Zebra	180	9
Kangaroo	150	7.5
Lion	110	5.5
Cheetah	80	4

8. Here is a recipe for vegetable soup.

Vegetable soup

(serves 4 people)

1 large onion

300 g potatoes

650 g butter beans

350 ml stock

2 carrots

250 g mushrooms

400 g chopped tomatoes

850 g pumpkin

The recipe is enough for 4 people. To make enough for 8 people, you need to double the amount of each ingredient, for example, you would need 300 g × 2 = 600 g of potatoes.

Work out the quantities of these ingredients:

	For 4 people	For 8 people	For 2 people
Butter beans	650 g	1300 g	325 g
Stock	350 ml	700 ml	175 ml
Mushrooms	250 g	500 g	125 g
Tomatoes	400 g	800 g	200 g
Pumpkin	850 g	1700 g	425 g

9. Find the ratio of the black beads to the white beads as requested in the table .

Ratio	Ratio in simplest form	Necklace
Black beads to white beads = 2 : 10 or 4 : 20	Black beads to white beads = 1 : 5	
White beads to black beads = 10 : 14	White beads to black beads = 5 : 7	
Black beads to white beads = 16 : 8	Black beads to white beads = 2 : 1	
White beads to black beads = 15 : 9	White beads to black beads = 5 : 3	
Black beads to white beads = 2 : 22	Black beads to white beads = 1 : 11	