

## CBSE Class 4 Subject Mathematics

### NCERT Solutions

#### Chapter -9

#### HALVES AND QUARTERS

Read the following passage and answer the questions that follow:

**1. If the cats ask you to divide the chapati equally how will you divide it?**

**Ans.** To divide the chapatti equally, I will fold it in such a way that one part coincides with the other exactly. These parts will look as shown in the figure.



**2. If two or more cats come for food how will you divide one chapati equally for four cats?**

**Ans.** To divide one chapati equally into four parts. I will first divide into two halves. Then. I will fold each half in such a way that one part coincides with the other exactly. These parts will look as under:



**3. Half of Many Pieces**

**Rani got a chocolate. She divided it equally and gave half to her friend Reena.**

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**(a) Circle the portion the Reena got.**

**Ans. (a)** Reena's portion is shown as encircled:



**(b) How many pieces of chocolate are there?**

**Ans. (b)** There are six pieces of chocolate.

**(c) How many pieces were left with Rani?**

**Ans. (c)** Three pieces of chocolate were left with Rani.

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**4. Rajni's father brought a cake. She divided the cake into 4 equal parts- for herself, her brother Raju, her father and her mother.**

**(a) Colour each share with different colours.**

**Ans.**



**(b) How much does each get?**

**Ans. (b)** Each gets  $\frac{1}{4}$  of the cake.

**(c) Out of 4 parts Rajni will get 2 parts. Which is equal to half of the cake. So she can write as  $\frac{2}{4}$  or  $\frac{1}{2}$ .**

**Ans. (c)**



(d) Colour the share Raju got.

Ans. (d)



5. Using a Price List:

Item	Price in Rs (per kg)
Tomato	8
Potato	12
Onion	10
Carrot	16
Pumpkin	4

(a) How much does  $\frac{1}{2}$  kg tomato costs?

Ans. (a) Cost of 1 kg tomato = Rs8

Cost of  $\frac{1}{2}$  kg of tomato = Rs  $\frac{8}{2}$  = Rs 4

(b) Which costs more  $\frac{1}{2}$  kg of onions or  $\frac{1}{4}$  kg of carrots.

**Ans. (b)** Cost of 1 kg of onions = Rs. 10

$$\text{Cost of } \frac{1}{2} \text{ kg of onions} = \text{Rs. } \frac{10}{2} = \text{Rs } 5$$

Cost of 1 kg of carrots = Rs 16

$$\text{Cost of } \frac{1}{4} \text{ kg of carrots} = \text{Rs. } \frac{16}{4} = \text{Rs } 4$$

Since, 5 is more than 4, therefore, cost of  $\frac{1}{2}$  kg of onions is more than the cost of  $\frac{1}{4}$  kg of onions.

**(c) What is the price of  $\frac{3}{4}$  kg potato?**

**Ans. (c)** Cost of 1 kg potato = Rs. 12

$$\text{Cost of } \frac{3}{4} \text{ kg of potato} = \text{Rs } 12 \times \frac{3}{4}$$

$$= \text{Rs. } \frac{12 \times 3}{4}$$

$$= \text{Rs. } 9$$

**(d) Keerthi is going for shopping. She has only Rs 20 with her. Can she buy all the things**

in her shopping list?

**Ans. (d)** Cost of  $\frac{1}{2}$  kg potato = Rs. 8  $\times \frac{1}{2}$  = Rs. 4

Cost of 2 kg pumpkin = Rs. 4  $\times$  2 = Rs. 8

Cost of  $\frac{1}{4}$  kg carrot = Rs. 16  $\times \frac{1}{4}$  = Rs. 4

Total cost = Rs. 16

Since, Keerthi has Rs. 20 which are more than Rs. 16, so she can buy all the things in her shopping list.

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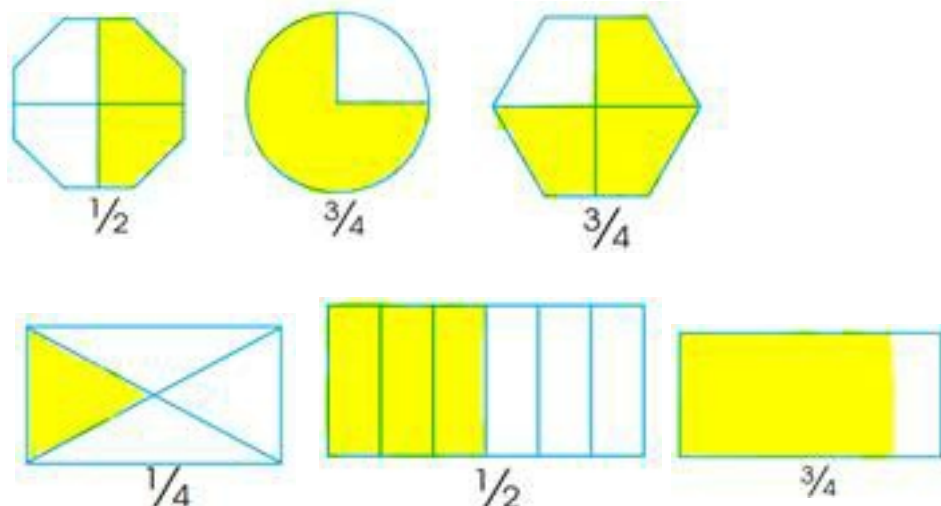
**6. (a) What part of the whole is coloured? Write below each shape.**



**Ans.**  $\frac{1}{2}$  is coloured and  $\frac{2}{4}$  or  $\frac{1}{2}$  is coloured.

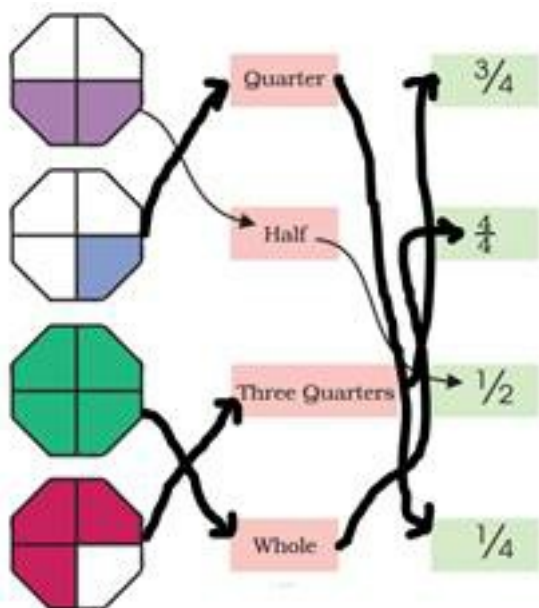
**(b) Colour that part of the shapes which is written below.**

**Ans.**



7. Match the colour part as shown.

Ans.



8. How many centimeters long is the line?

Ans. The line is 50 cm long (because 1 metre = 100 cm)

$\therefore$  1 metre = 100 cm

$$\frac{1}{2} \text{ metre} = 50 \text{ cm} \quad \therefore 100 \times \frac{1}{2} = 50$$

$$\frac{1}{4} \text{ metre} = 25 \text{ cm} \quad \therefore 100 \times \frac{1}{4} = 25$$

$$\frac{3}{4} \text{ metre} = 75 \text{ cm} \quad \therefore 100 \times \frac{3}{4} = 75$$

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**9. (a) How many millimetres of milk does each bottle have?**

**Ans. (a)** Each bottle has  $\left(\frac{100}{4}\right) = 250$  ml of milk.

**(b) Shade the level of milk in each bottle.**

**Ans. (b)** The level of milk is shaded as shown in the adjacent figure.

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**(c) How many milliliter of milk does each bottle hold?**

**Ans. (c)** Milk in the first bottle =  $\frac{3}{4} \times 1000 \text{ ml} = 750 \text{ ml}$

Milk in the first bottle =  $\frac{1}{4} \times 1000 \text{ ml} = 250 \text{ ml}$

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**10. Choose from the weights above to make the two pans equal. In how many ways you can do it?**

**Ans.** Two pans can be made equal by putting the weights shown in the empty pan in many ways. Some of them are given below:

**(i)** 1 kg, 500 g, 500 g

**(ii)** 1 kg, 500 g, 300 g, 200 g

**(iii)** 1 kg, 500 g, 250 g, 250 g

(iv) 1 kg, 250 g, 250 g, 250 g

(v) 1 kg, 500 g, 200 g, 200 g, 100 g

(vi) 1 kg, 500 g, 250 g, 200 g, 50 g

(vii) 500 g, 500 g, 250 g, 250 g, 250 g, 200 g, 50 g

(viii) 500 g, 500 g, 250 g, 250 g, 200 g, 200 g, 100 g

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**11.(a) Draw the weights in empty pan. Remember 1 kg = 1000g.**

**Ans. (a)** To balance the two pans, we will put one weight of 1 kg and two weights 500 g in the empty pan.

**(b) In how many different ways can you balance this weight of  $\frac{3}{4}$  kg?**

**Ans. (b)** Some of weights which can balance  $\frac{3}{4}$  kg of weight are as under:

(1) 500 g, 250 g; (2) 250 g, 250 g, 50 g; (3) 250 g, 200 g, 200 g, 100 g.

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**12. Kannan shaded some parts as shown. But his friend Mini says that it wrong. Explain why it is wrong.**

**Ans.** In the case of the rectangle, the four divisions are not of the equal size. So, it cannot be said the shaded part is  $\frac{1}{2}$ . In case of the triangle, the line is not at the middle.

Clearly, the shaded part is not  $\frac{1}{2}$ .

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**13. There are 60 mangoes.  $\frac{1}{2}$  of them are ripe. How many mangoes are ripe?**



**Ans.** Number of mangoes =  $\frac{60}{2} = 30$ .

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**14. There are 32 children.  $\frac{1}{2}$  of them are girls. How many children are boys?**

**Ans.** Total number of children = 32

Number of girls =  $\frac{32}{2} = 16$

Thus, number of boys =  $32 - 16 = 16$ .

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**15. There are 20 stars. A quarter of them are red. How many stars are red. How many are not red?**

**Ans.** Total number of stars = 20

Number of red stars = A quarter of 20 stars

=  $\frac{1}{4} \times 20 = 5$  stars

∴ Number of non-red stars =  $20 - 5 = 15$ .

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**16. Ravi wants a pencil. It costs Rs. 2. He gives a one-rupee coin, one half rupee coin and one-quarter rupee coin. Is it enough?**

**Ans.** Cost of a pencil = Rs. 2

Money paid = Re 1.00 + Re 0.50 + Re 0.25 = Rs. 1.75

Since, Rs 2 is more than Rs 1.75, therefore, money paid is not enough.